J. F. B.

NORTH AM. MED-CHIR
V. 1

But five volumes of this Journal
were published - It is a perfect set -
D. H. S.

THE

NORTH AMERICAN
MEDICO-CHIRURGICAL
REVIEW.

EDITED BY

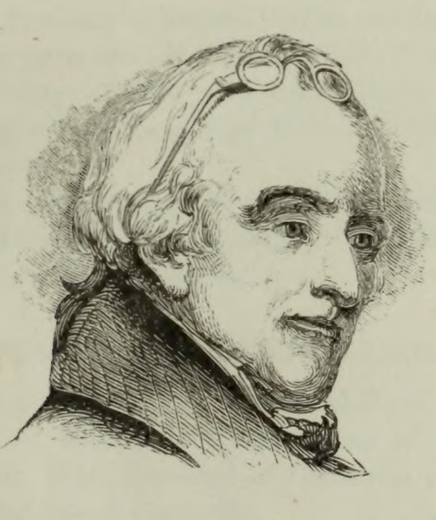
S. D. GROSS, M.D.,
PROFESSOR OF SURGERY IN THE JEFFERSON MEDICAL COLLEGE, PHILADELPHIA.

AND

T. G. RICHARDSON, M.D.,
PROFESSOR OF ANATOMY IN THE MEDICAL DEPARTMENT OF PENNSYLVANIA COLLEGE, PHILADELPHIA.

Occidet qui non Servat.

VOL. I.



PHILADELPHIA:
J. B. LIPPINCOTT & CO.
1857.

BOSTON MEDICAL
JAN 2 1902
LIBRARY.

CATALOGUED
JAN 2 1902
J. F. B.

NORTH AMERICAN
MEDICO-CHIRURGICAL REVIEW.

NO. 1.—JANUARY, 1857.

CONTENTS.

ANALYTICAL AND CRITICAL REVIEWS.

PAGE

ART. I.—1. The Medical Profession of Ancient Times. By JOHN WATSON, M.D., Surgeon of the New York Hospital, ... 1

2. History of Medicine from its origin to the nineteenth century. By F. V. RENOUARD, M.D. Translated by C. G. Comegys, M.D., 1

3. Recherches Historiques sur l'Exercise de la Médecine dans les Temples chez les Peuples de l'Antique, &c. Par L. P. AUGUSTE GAUTHIER, D.M.P., ... 1

ART. II.—A Treatise on the Practice of Surgery. By HENRY H. SMITH, M.D., Professor of Surgery in the University of Pennsylvania, . 26

ART. III.—Cretins and Cretinism. By GEO. S. BLACKIE, M.D., Curator of the Botanical Society of Edinburgh, ... 38

ART. IV.—The Transactions of the American Medical Association, Vol. IX. 1856, ... 44

ART. V.—New Elements of Operative Surgery. By A. L. M. VELPEAU. Fourth edition with additions. By GEO. C. BLACKMAN, M.D., Professor of Surgery, Medical College of Ohio, . . . 57

ART. VI.—Lectures on Materia Medica and Therapeutics. By JOHN B. BECK, M.D., Professor of Materia Medica and Therapeutics. Prepared for the press by C. R. GILMAN, M.D., Professor of Obstetrics in the College of Physicians and Surgeons at New York, . 60

ART. VII.—Transactions of the Indiana State Medical Society, at its Seventh Annual Session, ... 61

ART. VIII.—A Treatise on Therapeutics and Pharmacology, or Materia Medica. By GEORGE B. WOOD, M.D., Professor of Medicine in the University of Pennsylvania, ... 65

ORIGINAL COMMUNICATIONS.

ART. I.—Granular Conjunctiva. By C. S. FENNER, M.D., of Memphis, Tenn., 66

ART. II.—Management of Transverse Presentations of the Fœtus. By JOHN HARDIN, M.D., Professor of Obstetrics in the Kentucky School of Medicine at Louisville, ... 73

ART. III.—On the Ligation of Arteries. By T. P. GIBBONS, M.D., . . 78

ART. IV.—On the Economical Use of Quinia. By O. C. GIBBS, M.D., of Chatauque Co., New York, ... 79

ART. V.—A New Plan for the Treatment of Uterine Hemorrhages. By M. DUPIERRIS, of Havana, ... 83
ART. VI.—Account of a New Tourniquet. By S. D. GROSS, M.D., Prof. of Surgery in the Jefferson Medical College of Philadelphia, . 96
ART. VII.—On the Evil Effects of Marriages of Consanguinity. By S. M. BEMISS, M.D., of Louisville, Ky., ... 97

BI-MONTHLY PERISCOPE.

PHYSIOLOGY.

1. Obliteration of the Portal Vein, ... 108
2. Temperature of the Blood lowered by passing through the Lungs, . 109
3. Coagulation of the Blood, ... 109

SURGERY.

1. Case of Laceration of the Perineum successfully operated upon, . . 110
2. Chronic Abscess of the Tibia, ... 113
3. Mode of reducing Dislocated Thumb, ... 113
4. Treatment of Ranula, ... 114
5. Injection of Balsam Copaiba in Gonorrhœa, ... 114
6. Perchloride of Iron as a Hemostatic, ... 115
7. Surgical Statistics of Massachusetts General Hospital, . . . 115
8. Perchloride of Iron in Panniform Keratitis, ... 117
9. Successful Ligature of the Innominate Artery, ... 117
10. Glycerine and Tannin in Vaginitis, ... 118
11. Inverted Nail cured by the local application of Solution of Acetate of Lead, ... 119
12. Spina Bifida, ... 120
13. Traumatic Tetanus cured by local application of Chloroform to the Spine, ... 121

PRACTICAL MEDICINE, ETC.

1. Diagnosis of Phthisis by the Microscope, ... 123
2. Treatment of Chorea by Gymnastics, ... 125
3. Large Intestinal Calculus, ... 127
4. Pericarditis, ... 128
5. Idiopathic Tetanus; two Cases, with one Case after Abortion, and Notes on Traumatic Tetanus, ... 130
6. Charcoal in Epidemics of Measles and Cholera, ... 132

OBSTETRICS, ETC.

1. Carbonic Acid as a local Anæsthetic in Uterine Diseases, . . . 137
2. Effect of Carbonic Acid on the Gravid Uterus, ... 139
3. Carbonic Acid as a Means of producing Premature Labor, . . . 139
4. Stricture of the Uterus, ... 140
5. Criminal Abortion—Peritonitis, ... 142
6. Development and Decline of the Function of Menstruation, . . 142
7. Abortion the Result of patulous Condition of the Os Uteri, . . . 145
8. Rules for the Resuscitation of Still-Born Infants, ... 146
EDITORS' TABLE, ... 148
BI-MONTHLY BIBLIOGRAPHICAL RECORD, ... 160

NORTH AMERICAN
MEDICO-CHIRURGICAL REVIEW.

NO. 2.—MARCH, 1857.

CONTENTS.

ANALYTICAL AND CRITICAL REVIEWS.

PAGE

Art. I.—1. The History, Diagnosis, and Treatment of the Fevers of the United States. By Elisha Bartlett, M.D., late Professor of Materia Medica and Medical Jurisprudence in the College of Physicians and Surgeons of the University of the State of New York, &c. &c. Fourth Edition, revised by Alonzo Clark, M.D., &c. &c., ... 161

2. Diseases of the Circulatory System. Division—Fevers—from Elements of Medecine. By Samuel H. Dickson, M.D., LL.D., Professor of the Institutes and Practice of Physic in the Medical College of the State of South Carolina, . . 161

Art. II.—1. A Treatise on the Diseases of the Breast and Mammary Region. By A. Velpeau, Professeur à la Faculté de Médecine de Paris, &c. &c. Translated by Mitchell Henry, Fellow by examinatian of the Royal College of Surgeons, &c. &c., ... 193

2. A Treatise on Cancer of the Breast and of the Mammary Region. By A. Velpeau, Member, &c. Translated by W. Marsden, M.D., Surgeon to the Royal Free and Cancer Hospital, ... 193

Art. III.—Des Anévrysmes et de leur Traitement. Par Paul Broca, Agrégé à la Faculté de Médecine de Paris, &c. &c., . . . 211

Art. IV.—The Causes and Prevention of Yellow Fever at New Orleans and other cities in America. By E. H. Barton, A.M., M.D., Chairman of the Sanitary Committee; late President of the Louisiana State Medical Society, &c. &c. Third Edition, with the addition of upwards of seventy pages of Prefatory Remarks, and a Supplement, ... 241

ART. V.—An Exposition of the Signs and Symptoms of Pregnancy; with some other Papers on Subjects connected with Midwifery. By W. F. MONTGOMERY, M.D., &c. &c. Second Edition, . . 249

ART. VI.—1. The Dissector's Manual of Practical and Surgical Anatomy. By ERASMUS WILSON, F.R.S., &c. Edited by WM. HUNT, M.D., Demonstrator of Anatomy in the University of Pennsylvania. Third American Edition, ... 254

2. The Practical Anatomist; or the Student's Guide in the Dissecting Room. By J. M. ALLEN, M.D., late Professor of Anatomy in the Medical Department of Pennsylvania College, ... 254

3. Practical Anatomy; a new Arrangement of the London Dissector, with numerous additions and illustrations. By D. HAYES AGNEW, M.D., Lecturer on Anatomy, . . . 254

ART. VII.—Obstetrics; the Science and Art. By CHARLES D. MEIGS, M.D., Professor of Midwifery and Diseases of Women and Children in Jefferson Medical College, &c. &c., ... 258

ORIGINAL COMMUNICATIONS.

ART. I.—Practical Remarks on Strabismus, with some novel Suggestions respecting the Operation for its Relief. By THOMAS GRAHAM, M.D., F.R.C.S., ... 259

ART. II.—Mortality of Philadelphia for the quarter ending January 1, 1857, and a General Summary for the year 1856. By WILSON JEWELL, M.D., ... 268

ART. III.—Case of Popliteal Aneurism treated by Compression. By T. P. Gibbons, M.D., ... 281

ART. IV.—Case of Hooping-Cough attended with peculiar Symptoms; with Remarks. By CHAS. A. HENTZ, M.D., ... 285

ART. V.—Case of Complete Rupture of the Perineum; Operation; Cure. By B. F. TRABUE, M.D., ... 288

ART. VI.—Reduction of a Femoral Dislocation of Six Months' Standing, by Manipulation. By M. DUPIERRIS, M.D., ... 290

ART. VII.—Cases of Inversio Uteri. By P. G. BERTOLET, M.D., . . 294

ART. VIII.—Case of Dislocation of the Head of the Tibia forward. By S. D. GROSS, M.D., ... 298

ART. IX.—Case of Chronic Peritonitis developed by Pregnancy. By D. B. CLIFFE, M.D., ... 299

EDITORS' TABLE, ... 301

EULOGIUM ON ROUX AND REMINISCENCES OF DUPUYTREN, ... 312

NECROLOGY, ... 319

NORTH AMERICAN
MEDICO-CHIRURGICAL REVIEW.

NO. 3.—MAY, 1857.

CONTENTS.

ANALYTICAL AND CRITICAL REVIEWS.

PAGE
ART. I.—Des Anévrysmes et de leur Traitement. Par PAUL BROCA, Agrégé à la Faculté de Médecine de Paris, &c. &c., ... 321
ART. II.—Historical Sketches of Quarantine. By WILSON JEWELL, M.D., 356
ART. III.—Medical Notes and Reflections. By Sir HENRY HOLLAND, Bart., M.D., F.R.S., &c., ... 368
ART. IV.—Report on the Causes which impede the Progress of American Medical Literature. By S. D. GROSS, M.D., &c. &c., . . . 379

ORIGINAL COMMUNICATIONS.

ART. I.—On the Influence of Electrical Fluctuations as a Cause of Disease. By A. LITTELL, M.D., Surgeon to Wills Hospital, Philadelphia, ... 390
ART. II.—Stricture of the Colon. Amussat's Operation. By G. R. HENRY, M.D., of Burlington, Iowa, ... 409
ART. III.—On the Use of Quinoidine as a Substitute for Quinia in Miasmatic Fevers. By B. F. GRAHAM, M.D., of Wake Co., N. Carolina, 412
ART. IV.—Extraction of a Piece of Lead-pencil from the Bladder by Perineal Incision. By S. D. GROSS, M.D., Prof. of Surgery in Jefferson Med. College, Philadelphia, ... 413
ART. V.—Case of Scirrhus of the Liver in a Child three months old. By S. W. GROSS, M.D., of Philadelphia, ... 414
ART. VI.—Mortality of Philadelphia for the quarter ending April 1, 1857. By WILSON JEWELL, M.D., ... 415

BI-MONTHLY PERISCOPE.

SURGERY.

1. Inverted Toe-nail Treated without Operation, ... 424
2. Lagophthalmos from Paralysis of the Orbicularis Palpebrarum, . . 426

3. Spina Bifida. Three Cases from the same Mother, ... 428
4. Removal of Tumors by a New Method, ... 429
5. New Mode of Employing the Taxis in Hernia, ... 429
6. Iodine Injections in the Treatment of Ovarian Dropsy, . . . 429
7. Senile Gangrene, ... 431

PRACTICAL MEDICINE.

1. On the Treatment of the Night Sweats of Consumption, . . . 433
2. Treatment of Poisoning by Strychnine, ... 434
3. Prevention of Pitting in Small-Pox, ... 434
4. Medicinal Effects of Ammonia and its Preparations, ... 435
5. Treatment of Apnœa, ... 436
6. Treatment of Hooping Cough by Enemata of Assafœtida, . . . 438

PATHOLOGY.

Influence of Variations of Electric Tension as a Cause of Disease, . . 439

THERAPEUTICS AND MATERIA MEDICA.

1. Strychnine; its Uses and Abuses, ... 444
2. Arsenical Poisoning, ... 446
3. Absorption of Medicinal Substances from the Large Intestine, . . 447
4. Nitrate of Potash in Ascites and Anasarca, ... 448
5. Chlorate of Potash in Membranous Formations and Ulcerations of the Mouth and Throat, ... 448
6. Jelly of Iceland Moss and Cod-Liver Oil, ... 450
7. Mode of Administering Iodine in Large Doses, ... 450
8. Tincture of Iodine for Vomiting in Pregnancy, ... 451
9. Iodine Enemata in Dysentery, ... 451

OBSTETRICS.

1. Introduction of Ice into the Uterus, ... 451
2. Menstruation proved to be Ovulation accompanied by Exfoliation of Lining Membrane of the Uterus, ... 453
3. Diagnostic Value of Hemorrhage in Cancer of the Uterus, ... 454
4. Sterility dependent on Diseases of the Rectum, ... 455
5. Discussion before the Paris Academy on the Treatment of Ovarian Cysts, ... 456
6. Arrest of Mammary Secretion by the Application of Belladonna, . . 463
EDITORS' TABLE, ... 463

NECROLOGY.

Dr. Samuel Metcalfe, ... 477
Dr. S. P. Hullihen, ... 478
Dr. E. K. Kane, ... 478
Dr. Joseph G. Nancrede, ... 478
BIBLIOGRAPHICAL RECORD, ... 480

NORTH AMERICAN

MEDICO-CHIRURGICAL REVIEW.

NO. 4.—JULY, 1857.

CONTENTS.

ANALYTICAL AND CRITICAL REVIEWS.

PAGE

Art. I.—The Influence of Tropical Climates on European Constitutions. By Jas. Ranald Martin, M.D., Surgeon to the Bengal Army, &c. &c., 481

Art. II.—A Guide to the Practical Study of Diseases of the Eye. By Jas. Dixon, Surgeon to the Royal Ophthalmic Hospital, Moorfields, ... 501

Art. III.—Leçons de Physiologie Expérimentale, Appliquée a la Médecine, faites au Collége de France. Par M. Claude Bernard, Membre de l'Institut de France, &c. Tome Deuxième, . . . 529

Art. IV.—Guy's Hospital Reports (for 1856), ... 548

Art. V.—Statistical Report on the Sickness and Mortality in the Army of the United States. Prepared under the direction of the Surgeon-General. By R. H. Coolidge, M.D., Assistant Surgeon United States Army, ... 561

Art. VI.—The Physician's Pocket Dose and Symptom Book. By Joseph H. Wythes, M.D. Second edition, ... 569

Art. VII.—Catalogue of the Human Crania in the Collection of the Academy of Natural Sciences of Philadelphia. By J. Aitken Meigs, M.D., ... 570

Art. VIII.—The Microscope: its History, Construction, and Application. By Jabez Hogg, M.R.C.S., ... 571

Art. IX.—The Physiological Anatomy and Physiology of Man. By Robt. Bentley Todd, M.D., F.R.S., &c., and William Bowman, F.R.S., &c., ... 575

Art. X.—The Change of Life in Health and Disease. By Edward John Tilt, M.D. Second edition, ... 575

ORIGINAL COMMUNICATIONS.

ART. I.—Urethro-Vaginal and Vesico-Vaginal Fistules: their Classification and Treatment; Modifications of the Button Suture. By N. BOZEMAN, M.D., of Montgomery, Alabama, ... 576

ART. II.—Experiments upon Digestion. By FRANCIS G. SMITH, M.D., Prof. of Institutes of Med., Penn. College, ... 598

ART. III.—Puerperal Fever and Erysipelas. By J. LEVERGOOD, M.D., Wrightsville, Penn., ... 600

ART. IV.—Treatment of Pneumonia. By C. J. POPE, M.D., Eufaula, Ala., 602

ART. V.—Case of Cirrhosis of the Liver and Bronzed Skin. By CHAS. FRICKE, M.D., Baltimore, ... 604

ART. VI.—Case of Colica Pictonum, produced by the White Lead Treatment of a severe Scald. By G. A. KUNKLER, M.D., ... 605

ART. VII.—Two Rare Surgical Cases. By W. M. BOLING, M.D., of Montgomery, Ala., ... 606

ART. VIII.—The American System of Medical Education, ... 610

PROCEEDINGS OF THE TENTH ANNUAL MEETING OF THE AMERICAN MEDICAL ASSOCIATION, ... 617

PROCEEDINGS OF THE QUARANTINE CONVENTION, ... 623

PROCEEDINGS OF THE PENNSYLVANIA STATE MEDICAL SOCIETY, . . . 628

EDITORS' TABLE, ... 631

BIBLIOGRAPHICAL RECORD, ... 640

NORTH AMERICAN

MEDICO-CHIRURGICAL REVIEW.

NO. 5.—SEPTEMBER, 1857.

CONTENTS.

ANALYTICAL AND CRITICAL REVIEWS.

PAGE

ART. I.—1. Réflexions sur l'Intermittence considérée chez l'homme dans l'état de Santé et dans l'état de Maladie, &c. Par E. PALLAS, M.D., ... 641
  2. De la Périodicité des Fièvres Intermittentes et des Causes qui la Produisent. Par M. F. M. AUDOUARD, D.M.M., . . . 641
  3. Des Irritations Nerveuses sous le Rapport de la Thérapeutique. Par GUERIN DE MAMERS, D.M.P., ... 641
  4. Des Fièvres Intermittentes sous le Rapport de l'Etiologie et de la Thérapeutique. Par GUERIN DE MAMERS, D.M.P., . . 641
  5. Traité Anatomico-Pathologique des Fièvres Intermittentes Simples et Pernicieuses. Par E. M. BAILLY, D.M.P., . . 641

ART. II.—1. Indigenous Races of the Earth, or New Chapters of Ethnological Inquiry. By J. C. NOTT, M.D., and GEO. R. GLIDDON, formerly U. S. Consul at Cairo, ... 665
  2. Crania Britannica. By JOSEPH BARNARD DAVIS, M.R.C.S., F.S.A., &c., and JOHN THURNAM, M.D., F.S.A., ... 665
  3. Essai sur les Déformations Artificielles du Crane. Par L. A. GOSSE, de Genève, Docteur en Médecine, &c., ... 665
  4. Schædel, Hirn und Seele des Menschen und der Thiere nach Alter, Geschlecht und Race, dargestellt nach neuen Methoden und Untersuchungen von EMIL HUSCHKE, ... 665

ART. III.—A Treatise on Cancer, and its Treatment. By J. WELDON FELL, M.D., ... 688

ART. IV.—An Exposition of the Signs and Symptoms of Pregnancy. By W. F. MONTGOMERY, A.M., M.D., M.R.I.A., ... 694

ART. V.—On the Diseases of Women; including those of Pregnancy and Childbed. By FLEETWOOD CHURCHILL, M.D., T.C.D., M.R.I.A., 695

ART. VI.—Smithsonian Contributions to Knowledge. By JOSEPH JONES, M.D., Professor of Chemistry in the Savannah Medical College, 697

ART. VII.—Leçons de Physiologie Expérimentale, Appliquée la Médecine, faites au Collége de France, &c. Par M. CLAUDE BERNARD, Membre de l'Institut de France. Prof. de Médecine au Collége de France. Prof. de Physiologie à la Faculté des Sciences, &c. &c., ... 699

PAGE

ART. VIII.—Elements of Pathological Anatomy. By SAMUEL GROSS, M.D., Professor of Surgery in the Jefferson Medical College of Philadelphia, &c., ... 702

ART. IX.—Manual of Physiology. By WILLIAM SENHOUSE KIRKES, M.D., F.R.C.P., &c., ... 704

ORIGINAL COMMUNICATIONS.

ART. I.—Remarks upon the State of Medical Science, and Some of the Diseases of Syria and Arabia. By R. GUTZLAFF BARCLAY, M.D., ... 705

ART. II.—The Parent Tissue and the Blastema. By W. S. BOWEN, M.D., of New York, ... 719

ART. III.—On the Excretion of Phosphoric Acid by the Kidneys. By WILLIAM A. HAMMOND. M.D., U.S.A., ... 730

ART. IV.—Case of Ovarian Tumor; Excision; Death; By M. KEMPF, M.D., of Ferdinand, Indiana, ... 738

ART. V.—A Case of Pregnancy in a Female, in whom the Menstrual Function had been for some years suspended. By O. C. GIBBS, M.D., of Frewsburg, New York, ... 741

ART. VI.—Case of Lamellar Cataract, with Remarks. By E. WILLIAMS, M.D., of Cincinnati, ... 743

ART. VII.—Pathology and Treatment of Anæmia. By H. P. AYRES, M.D., of Fort Wayne, Indiana, ... 748

BI-MONTHLY PERISCOPE.

SURGERY.

1. Treatment of Aneurism by Manipulation, ... 755
2. Professor Bœck on Syphilization, ... 758
3. Case of Excision of the Os Calcis, by an Improved Method of Operating, 762
4. Selections from the unpublished Manuscripts of the late Abraham Colles, 763
5. On the Concretions of the Prostate, ... 769

PRACTICAL MEDICINE.

1. Notes on the Use of Glycerine in Consumption, ... 770
2. Lactic Acid a Remedy for Dyspepsia, ... 772

THERAPEUTICS AND MATERIA MEDICA.

1. Report of a Case of Death caused by swallowing Oil of Turpentine, . 772
2. On the Employment of Amylene, ... 775

OBSTETRICS.

1. Secondary Uterine Hemorrhage, ... 778
2. On the Use of the Speculum, ... 783
3. Practical Observations on Blistering the Cervix Uteri, as a Remedial Agent in the Treatment of certain Diseased Conditions of that Viscus, 783

EDITORS' TABLE, ... 787

BI-MONTHLY BIBLIOGRAPHICAL RECORD, ... 800

NORTH AMERICAN

MEDICO-CHIRURGICAL REVIEW.

NO. 6.—NOVEMBER, 1857.

CONTENTS.

ANALYTICAL AND CRITICAL REVIEWS.

PAGE

ART. I.—De l'Influence de la Navigation et des Pays Chauds, sur la Marche de la Phthisie Pulmonaire. Par M. JULES ROCHARD, . . 801

On the Effects of Climate on Tuberculous Disease. By EDWARD LEE, M.R.C.S., ... 801

Le Climat de l'Italie sous le Rapport Hygienique et Medical. Par le DOCTEUR ED. CARRIERE, ... 801

On the Curative Influence of the Climate of Pau, and of the Mineral Waters of the Pyrenees in Diseases. By M. A. TAYLOR, M.D., ... 801

ART. II.—Lehrbuch der Krankheiten der Weiblichen Sexualorgane. Von DR. F. W. SCANZONI, ... 832

Text-Book of Diseases of the Female Sexual Organs. By DR. F. W. SCANZONI, ... 832

ART. III.—Clinical Lectures on Certain Diseases of the Urinary Organs. By ROBT. B. TODD, M.D., &c., ... 858

ART. IV.—Memorias sobre la Topografia Medica de la Habana. Par el DOCT. DON MARCIAL DUPIERRIS, ... 870

Medical Topography of Havana. By DOCTOR DUPIERRIS, . 870

ART. V.—Climatology of the United States, &c. By LORIN BLODGETT, . 874

ART. VI.—Principles of Medicine. By C. J. B. WILLIAMS, M.D., &c., . 877

ART. VII.—Diseases of the Ear. By J. NOTTINGHAM, ... 878

ART. VIII.—On Diseases of the Skin. By E. WILSON, F.R.S., &c., . . 879

ART. IX.—Catalogue of the Medical Library of Pennsylvania Hospital. By E. FISCHER, M.D., ... 880

ART. X.—The Practice of Surgery. By JAS. MILLER, F.R.S.E, &c., . . 882

ART. XI.—Address Before the Pennsylvania State Medical Society. By R. LA ROCHE, M.D., ... 883

PAGE
ART. XII.—A Treatise on Midwifery, &c. By P. CAZEAU, ... 883
ART. XIII.—Physician's Visiting List, Diary, &c., ... 884
ART. XIV.—Materia Medica and Therapeutics. By T. D. MITCHELL, M.D., &c., ... 884

ORIGINAL COMMUNICATIONS.

ART. I.—Urethro-Vaginal and Vesico-Vaginal Fistules. By N. BOZEMAN, M.D., ... 885
ART. II.—On the Diversity of Symptoms in Scarlatina Maligna. By G. SUTTON, M.D., ... 912
ART. III.—Psychology of Acute Rheumatism. By A. T. WHEELOCK, M.D., &c., ... 922
ART. IV.—On the Treatment of Prolapsus Uteri by the Local Application of Tannin. By G. A. KUNKLER, M.D., ... 927
ART. V.—Encephaloid Tumor within the Cranium and on the Neck. By J. C. KLUGE, M.D., ... 929
ART. VI.—Puerperal Fever and Erysipelas. By R. V. DUNCAN, M.D., . 931
ART. VII.—Dislocation of the Femur into the Sacro-Ischiatic Notch, reduced by Manipulation. By G. R. HENRY, M.D., ... 933
ART. VIII.—Mortality of Philadelphia, for April, May, and June, 1857. By W. JEWELL, M.D., ... 934

EDITORS' TABLE.

Female Medical Colleges and Female Doctors, ... 942
Medical Teaching and Opportunities in Philadelphia, ... 948
Miscellaneous, ... 949

NECROLOGICAL.

Dr. Marshall Hall, ... 952

BOSTON MEDICAL
JAN 2 1902
LIBRARY.

THE

NORTH AMERICAN

MEDICO-CHIRURGICAL REVIEW.

JANUARY, 1857.

Analytical and Critical Reviews.

ART. 1.—*The Medical Profession in Ancient Times;* an Anniversary Discourse, delivered before the New York Academy of Medicine. By JOHN WATSON, M.D., Surgeon of the New York Hospital. Published by order of the Academy. New York, 1856. Pp. 222, 8vo.

Histoire de la Médecine depuis son Origine Jusqu'au XIXme Siècle. Par P. V. RENOUARD, M.D. Paris, 1846. Vols. 2, pp. 468 and 524.

History of Medicine from its Origin to the Nineteenth Century. With an Appendix, containing a Philosophical and Historical Review of Medicine to the Present Time. By P. V. RENOUARD, M.D. Translated by C. G. COMEGYS, M.D. 1 Vol. 8vo. pp. 719.

Recherches Historiques sur l'Exercise de la Médecine dans les Temples chez les Peuples de l'Antiquité, &c. &c. Par L. P. AUGUSTE GAUTHIER, D.M.P. Paris et Lyon, 1844. Pp. 232, 12mo.

Historical Inquiries into the Practice of Medicine in the Temples among the Ancients. By L. P. AUGUSTUS GAUTHIER, M. D.

IT is something gained in these days of waning scholarship, when the designation of learned implies in the minds of many who ought to know better unfitness for the practical duties of professional life, that a writer like Dr. Watson is found among us to sustain the claims of learning, by showing, in his own person, how well and gracefully it is united to the active and successful discharge of every-day clinical practice, both in the wards of an hospital, and in the houses of his private patients. Although the annals of medicine abound in similar examples of this union, as has been shown in the pages of one of our immediate predecessors,* we hail, nevertheless, the appearance of Dr. Watson's "Anniversary Discourse," not only as a good omen, but as itself preluding and installing in the medical profession in this country, a restoration of humane letters to the place which they occupied within a period certainly not remote, and a conscious acknowledgment of their influence in enlightening and enlivening our every-day path, and, at the same time, in aiding us to make future investigations and discoveries. We learn from them, on the one hand, how and where the human mind has wandered from the right direction, and wasted its energies in unprofitable no less than wearisome trials, and in disquisitions either barren of results, or only productive of rank and noxious weeds; and, on the other hand, the actual state of the exact and demonstrative sciences, so that, when bent on further progress, we know the precise starting-point. All that has been said in favor of the study of history in general, holds good, with certain limitations, of the study of the history of medicine; and if ignorance of the first be deemed a cause of regret to the person who is thus deficient, and of reproach from others who are better informed, how much more regretable and reproachful is ignorance in the members of a profession, called "learned" and "liberal," of its annals, and of the causes which have sometimes accelerated, sometimes retarded, the advancement of medical science and literature? Descending from the history of the progress and revolutions in medicine to the details of individual life, what rich stores of instruction, what incitements to rival effort, what noble examples of self-denial and benevolence, are contained in the biographies of the physicians of bygone times! These are men and deeds for us to be proud of, and to make us feel that we belong to an order which can boast of greater antiquity and broader blazonry than any living descendants of the Percys or the Montmorencys. Can there then be dullards among us who would forego the privilege of such associations, by remaining in ignorance, and shutting their eyes on the pages of history, with all its lessons of wisdom, and it may be, at times, of warning also, in the self-sufficiency of mistaken independence and of exclusive reliance on personal experience, in place of their correcting its fallacies, and strengthening its conclusions when just, by the experience of the keen and conscientious and calm observers which, from age to age, for the last twenty-two centuries, has been put on record? Evading the real question, it is sometimes alleged, that a man may be learned and ingenious without his being a judicious and successful practitioner. This is undoubtedly true; but does it follow that a stupid and an illiterate man will practise with more success? We are supposing now that each has enjoyed the same opportunities of contemporary clinical observation and instruction. Whether we speak of physicians or of soldiers, the probabilities of efficiency are, it can hardly be denied, on the side of him who has been thoroughly trained and armed, and who has acquired the coolness and self-possession which allow of his employing his weapons, or his armamentarium of instruments and medicines, as the case may be, at the critical moment. The well-read physician, whose mind has been matured by study, has the same advantage over the illiterate one, if we can suppose a connection between illiteracy and medicine, that a well-trained soldier has over a raw recruit. Some there are who have won renown in arms without their having passed through military schools, or having received instruction in engineering: but we have yet to read of a truly great commander, one famed for his strategetical skill, who engaged in military life in entire ignorance of the art of war, as taught and practised by those who preceded him. So, also, in our own profession, there have been men of great and original genius, who have accomplished wonders, with but little aid derived from education; but, in reply, we would remark, how small is the number of such persons, and how much the value of their discoveries or original views have been diminished by their want of methodical habits of thought and practised dialectics. We need not cite a more remarkable example of the correctness of this view of the subject than that of John Hunter; and, if we had time to explain ourselves, we would add the name of one at least of John Hunter's most eminent pupils.

---

* Medical Examiner, April, 1854.

In handling the subjects which are discussed in the works whose titles head this article, we believe that, within the space allowed us, we shall do the most service to our readers by giving first a brief outline of the contents of the volumes, and then endeavor to represent their scope and spirit after our own fashion, and, for the most part, in our own language; inferior as both may be to those of the authors whose company we shall continue to keep on the occasion. By this means we shall be able to preserve a more connected narrative, historical and descriptive, than if we were to give a series of extracts with the same view; the more especially as this latter course would lead us far beyond our prescribed limits.

Dr. Watson, in a short preface, tells his readers of the bibliographical stores which he has made use of in preparing his discourse. They are very numerous, and include much of what has been written on the subject in the classical and the modern languages, in the way both of direct history and commentary, and of collateral literature and criticism. If the list which he introduces should alarm by its ponderous character, we cannot but feel the more grateful for the labor, skill, and good taste which he has exercised in elaborating from such massive and apparently heterogeneous materials, a work so clear and perspicuous as the one before us. His volume consists of thirteen chapters, in which he traces the condition of medicine, the merits and status of medical teachers and writers, and the succession of medical schools, from the earliest organization of society down to the time of Paul of Ægina, through the intermediate periods of the early Greek or ante-Hippocratic, and of the Asclepiadæ, then of Hippocrates and his immediate successors, on to the Schools of Pergamus and of Alexandria, and those of Smyrna and Epidaurus. Next follows a notice of the Schools of Rome, from their origin to the rise of the Eclectics, occupying one section, while a succeeding one is taken up with an account of the later Methodists of the Roman School. Greek writers and teachers, not of the Roman School, but contemporary with it, receive their share of attention. Galen, as so great a name deserves, has a chapter to himself. After him are enumerated certain Latin medical writers. Chapter XII presents us with a notice of Greek medical writers and medical institutions subsequent to Galen. The thirteenth and final chapter is taken up with a consideration of the laws and customs of the Roman Empire in relation to the Profession.

It augurs well for the progress of sound and Hippocratic medicine,—which is, at the same time, the medicine of learning and of common sense,—in the West, that a work of the character of M. Renouard's History should find a translator and a publisher in Cincinnati. The science of medicine, and the social position of its legitimate cultivators and professors, have suffered in the West,—as, indeed, where have they not suffered,—from the impudence and greed of ignorant pretenders and empirics, who find it easier to concoct crude speculations, and frame certain formulas of easy remembrance, which they embody in a system, so called, and teach, forsooth, under corporate grants, than to devote themselves, in a spirit of becoming industry and perseverance, to the study of the various branches of legitimate medicine during the requisite period, and then to submit with patience to, often, a long period of probation, before their professional services are required by the community in which they have taken up their abode. Out of the present apparent chaos, or of "confusion worse confounded," order will, however, yet come; and legitimate medicine, resting on the basis of sound philosophy and pure ethics, will appear in all its fair proportions. But, to obtain this desirable result, members of the profession, everywhere, must aim at and work up to a higher standard than that which is now generally received. Ignorance and illiteracy must not be tolerated within professional limits; pert assumption must be rebuked in those who start up as teachers before they have passed through a reasonable noviciate as learners; and the consciences of our state governments must be quickened into some sensibility for the health and lives of the people, so that a stop may be put to the cruel facility of granting charters to every batch of importunate applicants who wish to engage in the speculation of getting up a medical school, no matter under what name, or what doctrine or fashion of practice its half-fledged professors propose to teach. As contributing to a correct view of existing evils and tending to pave the way for amendments, the general perusal of such works as those of Dr. Watson and of M. Renouard should be encouraged, both by the example and precept of all those who in their respective positions may be supposed to be influential. The translation of the latter work by Professor Comegys is only one, among others, of the commendable zeal with which he turns to good account, for the honor of the profession, his knowledge acquired by previous study and foreign travel.

M. Renouard divides his History of Medicine into three books, corresponding to as many ages; and these again are subdivided into sections, or periods. The first age begins in the very infancy of society, as far back as historical tradition will allow, and comes down to the death of Galen, in the latter part of the second century of our era. This, the author calls the age of foundation. The second age, which may be termed that of transition, in which great principles were discussed, and symptomatology and prognosis "brought to a remarkable degree of perfection," extending to the date of the revival of letters in Europe, or to the beginning of the fifteenth century, offers few materials for a history of medicine. The art was stationary, if it did not actually retrograde. The third and last age, or that of renovation, in which the human mind seemed to awake, as from a long sleep, and displayed wonderful activity in every direction,—the sciences, fine arts, commerce, manufactures, social institutions, religious inquiries,—everything was changed or in process of change. The first age embraces four periods, viz., the *primitive* or *instinctive;* the *mystic* or *sacred;* the *philosophical;* and the *anatomical.* The second age has two periods: the Greek, and the Arabic. The seventh period, which begins the third age, is designated by M. Renouard as the *learned:* and the eighth period, which includes the seventeenth and eighteenth centuries, is named the *reforming.* The author has since given, in the shape of a supplement consisting of nine Letters, a critical review of the leading questions of the age which relate to medical doctrines and practice, and to medical heresies and absurdities. These Letters constitute the Appendix in the translation.

M. Gauthier, in his Inquiries into Temple Medicine, combats the opinion advanced by the animal magnetizers, that the priest-physicians had recourse to animal magnetism and to somnambulism in the treatment of the sick who were placed under their care. He describes the principal temples (*Asclepions* or *Asclepia*), dedicated to Esculapius, and the mode of practice adopted by the attending priests (*Asclepiadæ*); and also how dreams were interpreted into directions for the treatment of the sick, in these and other temples, in Greece and in Egypt. He contends that these institutions cannot be regarded in the light of hospitals, which he believes to be due to the influence of Christianity.

In the minds of many, the name of Hippocrates suggests, if not a mythical personage, at least a man whose history is mixed up with tradition; and of whom, at best, we have only a definite notion as the author or collector of some aphorisms. Accordingly, any person who might take it into his head to collect a certain number of herbs and roots to which tradition and popular belief ascribed curative powers, and who had watched the course of diseases, as a nurse, and a dispenser of his gathered simples, would be entitled to rank as the Hippocrates of his district and generation. Crude ideas like these might be excused among the ignorant and the unread; but they could hardly be expected to find a place in the brain of any medical man of common education—we might say, of common curiosity. If there be an excuse for such ignorance, it consists in the fact of the teachers in our medical schools, neglecting the history of medicine and the biographies of the great lights in the profession. The designating Hippocrates as "the Father of Medicine" has misled many into a belief that he was the first to treat of it with any method, and to make records of the symptoms of disease and their means of cure. A little attention to ancient history and a knowledge of the writings of Hippocrates himself suffice to dispel this illusion, and to show that there were physicians of eminence, schools of medicine, and clinical records, before the time of the Coan sage. The treatise which appears the first in the editions of his works, by his learned translators and commentators, Mr. Adams* and M. Littré,† is on "Ancient Medicine:" in it he finds fault with his predecessors, who had corrupted medicine by introducing hypotheses in explaining the causes of disease. Crotona, one of the great and flourishing cities of Magna Græcia which then included the greater part of southern Italy, was celebrated among other things for its medical school, a century before the birth of Hippocrates. To it belongs Democedes, a contemporary of Pythagoras, the latter of whom founded in that city his sect or order of hygienic philosophy.

Democedes, driven from home by the cruelty of his father, Calliphon, went first to Ægina, then to Athens, and afterwards to Samos, the tyrant of which island he cured of a dangerous disease. Taken prisoner by the Persians, he at first concealed his profession; but after awhile he was known, and was sent for by Darius, who suffered excessively from a dislocation of the foot, of which he was relieved by the skilful Crotonite. The queen, Atossa, who labored under cancer of the breast, had also recourse to him. The rewards and honors conferred on Democedes, at the Persian court, did not prevent him from feeling a great desire to see Greece once more. He obtained leave of absence, under the pretence of his intending to act as a spy; but in place of returning to Persia, he settled down, as we would term it, in Crotona, and married the daughter of his countryman, the celebrated Milo, of whose wonderful bodily strength and agility everybody has read. Iccus, of Tarentum, another of the great cities of Magna Græcia, paid particular attention to food, in its relation to the acquirement of the greatest bodily strength in gymnastic exercises.

---

* The genuine works of Hippocrates, translated from the Greek, with a Preliminary Discourse and Annotations. 2 vols. London, 1849.

† Œuvres Completes D'Hippocrate. Traduction Nouvelle, Tome 1re, Paris, 1839.

In the Italian school, as that of Crotona has also been called, we must rank the philosopher, physician, poet, and patriot, Empedocles, of Agrigentum in Sicily, who arrested a pestilential disease, from which his native city had suffered greatly, by walling up a defile in the adjoining mountains, through which the wind brought noxious effluvia. He also rendered a similar service to Selinus, another city in Sicily, which had long been afflicted with malignant fevers, in consequence of the sluggish flow and almost stagnant state of the water of the river that surrounded its walls. This he accomplished by causing the streams of two neighboring rivers to be turned into the channel of the obstructed one, which was thus cleansed of accumulated filth; and both the town and its vicinity were restored to health. Empedocles was the author of two poems: one on *Nature*, of which a number of fragments are still preserved, and which contained some physiological explanations of the formation of animals; the other poem was entitled *A Medical Discourse*. He paid considerable attention to anatomy, and discovered the labyrinth of the ear, which he regarded as the part essentially concerned in hearing. He advanced certain physiological explanations on the causes of the difference in the generation of the two sexes, and on sleep, and death. Hippocrates, in the treatise before mentioned, refers to some of his doctrines. Acron, a contemporary and countryman of Empedocles, was a minute observer of phenomena, without reference to cause; and was adopted, a long time afterwards, by the Empirics, as the chief of their sect. He wrote a treatise on *Wholesome Food*, which has been lost. Better remembered and more celebrated than the preceding characters, just named, is Herodicus, of Leontinum in Sicily, and according to Plutarch, brother to Gorgias, the celebrated orator; while, by others, he is spoken of as a native of Selymbria. Herodicus at first presided over a gymnasium, which, like all institions of the kind in Greece before his time, was a school of bodily exercises of various kinds, to prepare the youth who resorted to them for becoming soldiers, or athletes. A witness of the strength obtained from these exercises by persons in health, it occurred to him that by the same means, under proper regulation, weakness and infirmity, induced by disease, might be remedied. He was, himself, of an infirm constitution, which probably served to quicken his attention to the subject, and prompted him to make the requisite experiments. He acquired great vogue for these *medical gymnastics,* of which he is usually considered the founder; but he must have allowed of abuses, to draw on himself the strictures of Hippocrates, who accuses him of carrying his exercises to a hurtful extreme, and especially in acute diseases. Plato objected to Herodicus, that the latter prolonged the life of valetudinarians beyond measure and expectation, in place of letting them die, and be entirely relieved of their ills. This opinion is worthy of Lycurgus himself, but is not one which the invalid parties themselves would feel disposed to adopt. We have yet another name to introduce, from the school of Crotona: it is that of Alcmæon, a disciple of Pythagoras, and who is described to have been the first to engage in practical anatomy, by the dissection of animals. Empedocles must also have enjoyed similar opportunities. We cannot dismiss the school of Crotona, without repeating the remark of the learned M. Littré, that Hippocrates drew freely from its doctrines; which, in this way, have exerted a powerful influence over the medical world.

In Greece itself, there were three sources of medical knowledge and means of medical instruction, anterior to the time of Hippocrates, viz., the Temples of Æsculapius, or Temples of Health; the Gymnasia; and the Schools of Philosophy, with all of which he was well acquainted, and from which he derived the materials and many of the doctrines of his own treatises. The abovementioned temples were called, as was before remarked, Asclepions or Asclepia, and the priests, who officiated in and presided over them, Asclepiadæ. These persons were at first the descendants of Esculapius, to whom, chiefly, the temples were dedicated. According to the Grecian story, this personage, who was one of the many sons of Jupiter, was so successful in curing diseases and preventing the approach of death, that grim Pluto made a formal complaint to his brother on Olympus, against such proceedings, which would, if allowed to go on, prevent any increase of the population of his lower empire. Jupiter, as a supporter of royal prerogative, listened to his brother's complaint, and killed Esculapius by a thunderbolt. No subsequent myth has made the followers of Esculapius liable to an accusation similar to that which cost him his life. Whether they have been deterred by his fate from saving so many lives, or have not been endowed with the same healing power, we cannot say.

The Asclepia combined temple with college, and, to a certain extent, hospital also. Their sites were eminently favorable to health, and suggestive of pleasurable sensations. They were usually on the summit of a hill or on the side of a mountain, sometimes not far from the sea-shore, and often in the vicinity of a medicinal, and even a thermal spring, and were sheltered by groves, amid which the senses were gladdened by flowers of variegated hues and agreeable odors. The newly-arrived sick underwent a preparatory process for receiving the gifts of health from the presiding deity, by previous ablutions, abstinence, and prayers. Religious ceremonies of an imposing character, often accompanied by music, were also practised. In the vicinity of the temple of Epidaurus, there was a large theatre for recitations and dramatic performances. The faith of the patients was strengthened by the priests reciting the wonderful cures performed by Esculapius; and pointing out, in confirmation, the votive tablets on the walls, and inscriptions on the columns of the temple. The patients, being thus prepared and predisposed, one might say, to be cured, were brought into the temple, in which they slept one or more nights, in order to be placed more directly under divine influence, or, more properly speaking, to have their imaginations affected by such sights and sounds as the priests might believe to be best adapted to the purpose. Faith and hope, powerful agents for the restoration of health, by their genial operation on the brain and nervous system generally, were thus brought into exercise; while, at the same time, the natural but too often neglected aids of pure and temperate regimen, with pleasing scenery, were enlisted in a subsequent period of the treatment. To this was added regular bathing, frictions, and gymnastic exercises, in the gymnasia adjoining the Asclepion. Riding on horseback was an Esculapian remedy, the practice of which is fully carried out at the present time by our brethren of the interior, and especially of the South and West; many of whom have never heard of the god of health, nor are aware that the ingenious fiction of the Greeks, which supposed the existence of centaurs, half man, half horse, arose from the sight of horse and rider, as if the two made one being, in the case of the inhabitants of Thessaly.

Active measures, covering, in fact, the list of ordinary therapeutical remedies, were not overlooked in the practice of the Asclepiadæ, or ministering priest-physicians; although the manner in which they were given was not in conformity with our modern Esculapian notions. The remedies were often selected on the faith of dreams, which were believed to be sent by Esculapius to the trusting invalid; but the interpretation of which, if they were allegorical or otherwise obscure, was made by the priests themselves. A wise discretion was, in some cases, absolutely necessary. Aristides, the orator, and therefore, as may be well understood, not Aristides the Just, was directed, in a dream, to lose a hundred and twenty ounces of blood, which was construed to mean that he ought to be freely bled. In our own day we might sometimes wish that there were persons of equal judgment as these priest-physicians, and invested with the like discretionary power to reduce to a prose and fact standard, the wonderful narratives, the waking dreams, to which some of our medical, not to say surgical, worthies are prone. On another occasion, a vicarious dreamer, one of the keepers of the temple, sorely puzzled, and at the same time naturally alarmed, poor Aristides. The dream was, that the bones and nerves of the orator were to be excised, as they were in a corrupt state. Happily, however, the god himself condescended to relieve the mind of the patient, by letting him know that recourse must be had to active means in order to bring about a change in his nerves and bones. It does not seem to have occurred to the credulous Aristides that the priests must have been indulging in a somewhat malicious satire on his own practice of exaggeration, and, sometimes, disguise of common facts, for the sake of producing a more lively impression on the minds of his auditors.

At times the dream was of a more pleasing character, and its requirements easily carried out; as in the case of Aspasia, the second, to whom Venus, under the form of a dove, appeared in a dream, and advised her to apply to a tumor on her chin dried rose-leaves, taken from the chaplets which had been given to her. Need it be added that this beautiful, what shall we call her—*Hetera*—was cured by the remedy!

The practices, enjoined on the faithful at the Asclepions, were not looked upon in the same favorable light by the more philosophical and better educated Greeks as they were by the multitude. Aristophanes, that great master of scoff and satire, went so far, in his comedy of Plutus, as to ridicule the tricks and mummeries of the priests, and their greediness of gain; and he caused the volatile and superstitious Athenians to laugh at exposures of the practice of a creed, philosophical doubts of the reasonableness of which made them condemn Socrates to the hemlock draught. Less exception could be found to the dreams suggested by Esculapius to the sick worshippers at his shrine, when they were recommended, as in the case of Marcus Aurelius, the emperor and philosopher, to take long walks, to ride on horseback, and to make use of the cold bath. Modern science has nothing to add to the various hygienic means suggested and put in practice in ancient temple medicine. Happy would it be for the general health at the present day, if we came up to the requirements, in this respect, of even the predecessors of Hippocrates. But, instead of carrying out the means of long-ascertained, if not of obvious, utility for the recovery of health, mummery without the excuse of superstition, and deception without the borrowed garb of hygiene, are substituted, under the names of mesmerism, animal magnetism, and last, and more impious than all, spiritual knockings, and table-turnings, and pretended revelations from the world of spirits, in the shape of the smallest and most silly gossip and twaddle, such as would fall short of the requirements of a kitchen tea-party. Priests of a purer faith and professed expounders of truly sublime doctrines are seen of late times, who, without actually practising, yield a too ready assent and attestation to these wretched devices, which can only be excused on the ground of insanity, preluded by this dominant hallucination. These persons seem entirely to forget that belief in the marvels thus set forth must destroy belief in true miracles; and, in the confusion of ideas thence resulting, reduce these latter to so many feats of mesmerism.

The mystic period of medicine in ancient Greece is revived in modern Christendom, in the shape of jugglery which sets all reason and experience, and the plainest rules of induction, at defiance. The present age affects a German spiritualism which is without faith, and, as a consequence, without religion; spiritualism only in its affecting to sublime matter, as, for instance, in homœopathic dilutions, which are beyond man's comprehension, and certainly beyond all possibility of any known or appreciable means of actual division or administration. The thing is impossible; but it is, notwithstanding, believed by many who, at the same time, disbelieve the mysteries of the Christian religion, because, save the mark, some do not understand them, while others think them explicable by the key of animal magnetism.

The Asclepiadæ of the different Esculapian and other health temples, for some were dedicated to other deities, as to Apollo, Venus, &c., formed colleges or corporations. The practice of medicine, at least of what might be called regular medicine, was entirely in their hands; and it seems to have been confined to certain sacerdotal families, as a kind of hereditary privilege. The instruction in them was begun in early life; it was almost entirely oral: Hippocrates was a member of one of these who were descended in a direct line, as it was alleged, from Esculapius. After a while, however, strangers were admitted for a fee, and taught the elements of medicine. Some of these became travelling or itinerant physicians, going from place to place, and from the court of one sovereign to that of another, to practise their profession. The strict Asclepiadæ must have allowed themselves eventually this privilege; for Hippocrates, who was in full standing in the order, by his birth, education, and associations, travelled in this way.

The most celebrated schools of medicine in temples, were those of Cnidos, Cos, Rhodes, and Cyrene. The two last-named were soon eclipsed by the fame of the others. Very different was the case with those of Cnidos and Cos, which may be said to have performed a conspicuous part in the diffusion of medical doctrines, and the formation of medical opinions. The first written work on medicine, so far as is known, emanated from the school of Cnidos: it is called *Cnidian Sentences*, and it furnished a theme for criticism by Hippocrates in one of his chief treatises (on *Regimen in Acute Diseases*). The most ancient of the Cnidian Asclepiadæ, whose name has come down to us, is Euryphon, a contemporary of, but older, than Hippocrates. He is generally spoken of as the author of the Cnidian Sentences, but, as Mr. Adams judiciously remarks, it is evident, from the language of Hippocrates in speaking of them, that they were written by more than one person. There were two editions of this work in the time of Hippocrates. Galen speaks of his having read it; but it is now entirely lost to us. Better fortune has attended the first books of Prorrhetics, and the Coan Prænotions, which, by Ermerius, whose opinion is adopted by M. Littré and Mr. Adams, are shown to have been written anterior to the time of Hippocrates. It may surprise some and amuse others of our readers, when we repeat, after M. Littré, that the school of Cos was engaged in the way of publishing later than that of Cnidos. It was customary for the sick, who had been benefited or cured by the treatment adopted in the Asclepions, to leave a few words expressive of their gratitude towards the tutelary divinity, and also describing the disease from which they had been freed, and the remedies by which they had been cured. These notes were inscribed on tablets suspended on the walls, or were written on the columns of the temple, and afterwards collected by the priests. The Coan Prænotions, introduced into the Hippocratic Collection, had probably been gathered in this way. The school of Cos attached great importance to a knowledge of the general symptoms, or those common to different diseases, that is, the symptoms which announced the efforts of nature; it also laid stress on those which mark the crises (probably the word belongs to this school), and the critical days. Such was the direction which the school of Cos had taken at the time that Hippocrates began his medical noviciate. The school of Cnidos, on the other hand, gave itself up to an observation and record of each separate symptom, and multiplied in a corresponding degree the varieties of disease. Thus, for instance, it spoke of seven diseases of the bile, twelve of the bladder, four of the kidneys, and four stranguries, besides three kinds of tetanus, four of jaundice, and three of phthisis. The Cnidian observers looked to the peculiarities of the body, instead of regarding the identity of the diathesis, as was done by Hippocrates. "In other words," says Mr. Adams,* "they split diseases into endless varieties, instead of attending to the essence or general nature of each. The system of Hippocrates then was founded on a rational prognosis, whereas that of the Cnidians was founded on mistaken principles of diagnosis." Dr. Watson, following M. Littré, sums up quite perspicuously the method of treatment adopted by the two schools, as follows: "In the management of acute diseases, the Cnidians employed numerous remedies, and in other affections few. The school of Cos, though at times more heroic, especially in the use of the lancet and active purgatives, were in the habit of managing acute diseases by a restricted regimen; barley-water more or less diluted, hydromel and oxymel, being among their most frequent prescriptions. In the management of chronic diseases, they favored the medical gymnastics of Herodicus; whilst at Cnidos their diseases were managed principally by laxatives and a diet of milk, or of milk and water."

---

* Note to Regimen in Acute Diseases.

The second source of medical knowledge among the Greeks, in the times anterior to and succeeding those of Hippocrates, was the gymnasia and the labors of the superintendents of these institutions. In them all kinds of exercises were methodically taught, and observations made on the kinds of food best adapted to preserve health and strength; and rules were deduced for a suitable dietetic regimen, according to the difference in temperaments and ages. The frequency of dislocations and fractures among such large numbers as frequented the gymnasia must have imposed, almost of necessity, on the superintendents the duty of treating these accidents; and hence a school of practical surgery was opened, of which Hippocrates must have largely availed himself. Of the application of gymnastics to the cure of disease, and the origin of what may be called medical gymnastics, we have already spoken in connection with the name of Herodicus.

The third source of medical knowledge from which Hippocrates drew, was the school of the Philosophers, the most eminent of whom seem to have made medicine a subject of careful study and observation. They examined the organization of living bodies, chiefly of animals, and inquired into the origin of disease, for the prevention as well as the cure of which they relied greatly on dietetics. At the head of these was Pythagoras, who was born in the island of Samos, in the latter part of the sixth century before Christ, Anaximenes, Diogenes of Apollonius, and his successor, Empedocles, Heraclides, Democritus, and Anaxagoras, all of them living anterior to Hippocrates. Mention has been already made of Empedocles in connection with the Italian school of medicine. Anaximenes regarded air as the cause or principle of all things; an opinion advocated by Diogenes, who cultivated anatomy, and gave a description of the origin of the veins in the abdomen, and their termination in the heart, whence he traced them to the head. According to this philosopher, man's intelligence depends on the air which is diffused through the blood by all the veins of the body; he declares it to be necessary to the existence of all animals, and that even fishes breathe it in the water. We most devoutly wish that at the present time, in the middle of the nineteenth century, and somewhere about twenty-three hundred years since the time of Anaximenes and Diogenes, this doctrine of the necessity and importance of air found more ready credence and general practice than it receives when people are assembled for the purposes of worship, or of business, or amusement. It would seem as if to admit the free air of heaven on these occasions, was an impiety, or a piece of extravagance, or in bad taste. Anaxagoras, the preceptor of Pericles, is a philosopher whose doctrines have left their traces in the Hippocratic Collection. He attributed the cause of acute diseases to the bile; and we thus learn that the theory of the bile, as a cause of disease, was anterior to Hippocrates: yellow was also distinguished from black bile. Democritus was the most learned of the Greeks before Aristotle, and, like him, he was a man of universal knowledge. He directed his attention to anatomy, physiology, dietetics, epidemics, fever, and probably hydrophobia and convulsive diseases, and treated of all these subjects. Although his numerous works are lost, some medical terms which he employed are still in common use; such, for instance, as phagedenic ulcer. He was remarkable for the purity of his style; and Aristotle eulogizes in strong terms the profound scientific knowledge of Democritus. M. Littré gives a list of eight different treatises written by this eminent philosopher-physician. The loss of the one on plagues, or pestilential diseases, is particularly to be regretted.

Ancient medicine then, we repeat, was derived, during the fifth century before the Christian era, from three sources: the temple of Esculapius, or the Asclepia, the gymnasia, and the schools of philosophy. We learn, also, that Hippocrates was not the creator but the continuer of systematic medicine; and that he was preceded by many others in the treatment of diseases, both in the temples and elsewhere. He found to his hand a record of these diseases on tablets, which, although a votive offering by those who had been cured, were written out with care by the Asclepiadæ, and contained an account of the chief symptoms and the mode of treatment. He found also a collection of these notes, and publication of books (Cnidian Sentences, and Prorrhetics, and Coan Prænotions), and already evidences of two systems: the one, which consisted in noting all the symptoms, and in making almost as many separate diseases; the other, which ascertained what the symptoms had in common, as indicating the state of the powers of life and the course of the disease. Clinical records, systematic diagnosis and prognosis, were accessible to Hippocrates during his term of study, and furnished materials for his own subsequent observations and writings. Like his predecessors in the temple, he was at first, doubtless, a compiler of the cures on record, and he arranged them according to the method most approved at the time. Let us now indulge in a brief notice of this remarkable man.

Hippocrates was born some time between 450 and 460 years before our era, in the island of Cos. He enjoyed, very early, unusual advantages in prosecuting his studies, under the guidance of his father, Heraclides, in the Asclepion of Cos, where he had access to all the treasures of observation collected during many generations, and had an opportunity of assisting in the management of the sick. Out of the temple, in the gymnasia, he became familiar with the hygienic and curative effects of exercise and a regulated regimen, under such teachers as Herodicus; while, at the same time, he acquired surgical experience by assisting in the treatment of accidents—dislocations and fractures—occurring in the gymnastic exercises. Nor was the cultivation of his mind by the study of letters and philosophy neglected: in these he was instructed by Gorgias and Democritus. Thus prepared by early and suitably prolonged culture and training, and having obtained a medical rank as one of the Asclepiadæ, equivalent to what graduation confers in modern times, Hippocrates set out on his travels. He visited on this occasion not only Greece proper, but also Thrace and Thessaly, practising and probably teaching his art in those countries. He extended his observations to Asia Minor, then in part occupied by Greek colonies and cities, whose wealth and progress in philosophy and the arts were little inferior to their display in the parent states of Greece itself.

Incidents are related, as belonging to the life of Hippocrates, which we would fain persuade ourselves to have actually occurred; but, although often repeated, they lack historical proof. It must be confessed, indeed, that we have no authentic biography of the man, and that what little is known of him has been gleaned from occasional references by other writers. The only author entitled to confidence, who has written *ex professo* on the life of Hippocrates, is Eratosthenes, a learned astronomer of Alexandria, who lived two hundred years later; and he seems to have restricted himself to the genealogy of the great medical philosopher. The story told of the important part performed by Hippocrates in staying the great plague at Athens, is declared by M. Littré to be entirely destitute of foundation, on the ground of the silence of Thucydides in this historian's account of the disease, and also of the age of the physician himself, who was then only thirty-two years old. Mr. Adams, while he admits the failure of direct testimony, does not deny the probability of the services of Hippocrates having been put in requisition by the Athenians on the occasion of a subsequent outbreak of the plague. The same scepticism and denial are uttered by M. Littré in reference to the alleged invitation of Artaxerxes, king of Persia, to Hippocrates, to visit that kingdom, and to exercise his skill in abating the ravages of the plague, with which it was then afflicted. Mr. Adams, on his part, suggests the probability of a request of this kind being made, as Greek physicians had been before then at the Persian court, and it had become part of its policy to obtain an influence in Greece by gold, which it had in vain attempted by force of arms. We are also obliged to give up that pretty little piece of romance, of the detecting the love of Perdiccas of Macedonia for a concubine of his father, by Hippocrates noting the change of expression in the young prince when the object of his love entered the room in which he was detained by love fever. The same story is told of Erasistratus, with the addition, that he detected the cause of his patient's malady by the increased frequency of his pulse when the beloved one approached the sick man's couch.

Hippocrates was not only a keen and patient observer of diseases, and one of their earliest describers, but he was also a prominent physician and a medical philosopher—master of the literature of medicine, and, in fine, an accomplished and learned man. He was worthy to figure in the most brilliant period of Greece, we might almost add, the most so of any succeeding people in literature, philosophy, poetry, and the fine arts. Using the word contemporary in the large sense, of living in the same historical period, if not precisely in the same years, we may, with Mr. Adams, say of Hippocrates: "He had for his contemporaries, Pericles, the famous statesman; the poets Æschylus, Sophocles, Euripides, Aristophanes, and Pindar; the philosopher Socrates, with his distinguished disciples, Plato and Xenophon; the venerable father of history, Herodotus, and his young rival, Thucydides; the unrivalled statuary Phidias, with his illustrious pupils; and many other distinguished names, which have conferred immortal honor on the age in which they lived, and exalted the dignity of human nature."

Great difficulties beset the path of scholiasts and antiquarian critics in arranging the writings called the Hippocratic Collection, so as to determine which are really those of Hippocrates himself, and which are written by his family and immediate disciples, or by his successors at a later date. The greater part of the first volume of M. Littré, which is introductory to his translation of all the works of Hippocrates, with commentaries, is taken up with an investigation of these questions, into which it would be idle for us to pretend to follow him, in the space that could be occupied by only a few paragraphs. We would refer our readers, also, to an able inquiry on the same subject by Mr. Adams, in the "Preliminary Discourse" to his translation of the genuine works of Hippocrates; and, in the absence of those volumes, to a neat summary of the classification of the works composing the Hippocratic Collection, and of the character of each of those admitted to be genuine, by Dr. Watson, in his "Anniversary Discourse." It is very generally admitted that the following works are genuine, viz.: 1. On Ancient Medicine; 2. The Prognostics; 3. The Aphorisms; 4. The Epidemics, books first and third; 5. Regimen in Acute Diseases; 6. On Air, Water, and Places; 7. On the Articulations; 8. On Fractures; 9. On the Instruments of Reduction; 10. The Oath;

11. The Physician's Office; 12. Injuries of the Head; 13. The Law. The entire Hippocratic Collection is divided by M. Littré into eleven classes, placing in class first the thirteen treatises entitled as above, which are believed to be from the pen of Hippocrates. The works of the second class he attributes to Polybius, son-in-law of the old man of Cos. Two books placed in the third class are believed to be more ancient than the genuine writings. These are the Coan Prænotions and the first book of Prorrhetics, to which reference was made in a preceding page.

Hippocrates gave what is most desired, the natural history of diseases. He laid great and deserved stress on prognosis, which implies not merely predicting the result, but a careful appreciation of the previous and present condition of the patient. Throughout, he advocates, and for the most part successfully preserves, the inductive method. His descriptions of disease bear proof of their being the result of his own observations, and of his having well reflected on those of other writers. His rules of practice are based on experience, but a rational not an empirical experience. Among the distinguishing traits of Hippocrates, are an exalted idea of medicine, its extent, its aim, and its difficulties; a great regard for medical dignity, and a lively feeling of the duties and obligations of his profession; a deep aversion against those who in any way compromised it, either by quackery or immorality; and, in fine, his unceasing solicitude for the cure, or, failing in this, the relief of the sick. The most philosophical of the works of Hippocrates, that which evinces extended observation, travel, and study, is on "Airs, Waters, and Places." In it, he inquires into the effects of the seasons, winds, and various kinds of water, localities, nature of the soil, and modes of life and exercise upon health, and the necessity of a physician making himself acquainted with all these matters. He next points out the influence of climates, and the diseases depending on differences in them. He compares the people of Europe, and especially of Greece, with those of Asia, and shows how the uniformity of the climate and the fertility of the soil in the latter, induce a monotonous course of life and thought, and disinclination to exertion in the inhabitants, who, in consequence, give themselves up to indolence and love of ease; whereas the Europeans, living on a poorer soil and in a climate of frequent vicissitudes, are compelled, for self-protection, to exert themselves in various ways; and thus they acquire habits of self-reliance, and display greater courage. Hellenic pride and consciousness of superior advantages, speak through the medical philosopher, when he tells us: "On this account, the inhabitants of Europe are more warlike than the Asiatics; and, also, owing to their institutions, because they are not governed by kings, like the latter; for, where men are governed by kings, there they must be very cowardly, as I have stated before; for their souls are enslaved, and they will not readily or willingly undergo dangers, in order to promote the power of another; but those that are free, undertake dangers on their own account, and not for the sake of others; they court hazard, and go out to meet it; for they, themselves, bear off the rewards of victory; and thus these institutions contribute not a little to their courage." Ethno-climatic and political teachings of this nature ought to find willing disciples among the people of the United States.

The books of "Prognostics" may not unaptly be called the Commentary of Hippocrates on the Coacæ Prænotiones; and it is regarded by competent critics as the oldest of all the works which the "Father of Medicine" has left to us. The rules of Prognosis, laid down in this treatise, are manifestly those by which the author is regulated in his other works, and more especially in the Epidemics and Aphorisms. In the treatise "On Regimen in Acute Diseases," two very important questions, as remarked by Mr. Adams, are discussed: first, a nosological question, regarding the proper distinction of diseases from one another; and, secondly, a therapeutical, respecting the rules by which the regimen in acute diseases ought to be regulated.

We are unable, now, to give even a slight outline of the subjects treated of, in the different treatises of Hippocrates; but must reserve for a future occasion the discharge of this pleasing duty. We shall, perhaps, be able to show the resemblance between the fevers (causus) described by Hippocrates, in the first and third Books of Epidemics, and the bilious remittent fever, which is met with at the present day in the Morea; and the like of which is common enough in Algeria, and in portions of our own country. If these subjects are investigated, the doctrines of Hippocrates respecting the humors, and critical days, will come up as collateral topics. We can now allude only to one more of the medical treatises of the great teacher, viz., the "Aphorisms," which, as has been justly said by the English editor and translator, "whether we regard the value of the subject-matters of which it is composed, or the influence which they have exerted on professional practice during a long lapse of ages, may be confidently pronounced to be one of the most remarkable works in the whole compass of medical literature." This work may be regarded as a summary view of the chief results of the preceding inquiries of the author.

The surgical writings of Hippocrates commend themselves to attention even in this age of progress; not merely as descriptive of the means had recourse to in fractures and dislocations twenty-two centuries ago, but as furnishing to the modern surgeon practical knowledge, by the clear and minute details of the injury, and the use of apparatus, and other methods of treating it. On the accidents which befall the elbow joint, "it will be admitted, even at the present day, that his information on the subject was almost complete. He was a bold operator: he trepanned the skull, and opened the chest in empyema and in hydrothorax. His views regarding club-foot were the soundest of all who had written on the subject, until the recent times of Stromeyer and Delpech.

Hippocrates passed the latter years of his life at Larissa, in Thessaly; and there ended his days, at the age of eighty-five years, according to some accounts, and of ninety, and even one hundred and four, and one hundred and nine, according to others. He was buried between Gyrton and Larissa, in a spot where subsequent writers asserted that his tomb was still to be seen. The Greeks, with their ever-inventive minds, took pleasure in telling, that long afterwards his tomb was the foundation of a bee-hive, the honey from which had the property of curing aphthæ of children. The lustre thrown over the school of Cos by Hippocrates was continued by his own immediate family, in the persons of his two sons, Thessalus and Draco, and his still more eminent son-in-law, Polybius. After these come Diocles, who was called by the Athenians, the second Hippocrates, and Praxagoras, of Cos, who was the last of the family.

The most celebrated among the philosophers, who directed his attention and studies to medicine, and who became imbued with the doctrines of Hippocrates, was Aristotle. Left to his own guidance, by the early loss of his father, Aristotle did what many young men do in every age of the world,—he spent his patrimony in dissipation, and became a soldier, like the Scotch Buchanan, and bluff Ben Jonson, in later times. Returning to his early studies—philosophy and medicine—he gave himself up to them with uncommon ardor and perseverance; and he became one of the most devoted disciples of Plato, who was then the great teacher in Athens, and to whom the youth of genius resorted from all parts of Greece. Aristotle persevered under the discouragement of straitened means, if not actual poverty,—a fact which, of itself, would entitle him to a place in the Esculapian brotherhood. It is said, that in order to procure for himself the means of subsistence, he kept a shop for the disposal of herbs; and, at the same time, he gave advice to the purchasers of his medicines, according to the usage of the pharmacopolists of that day. An humble beginning this, for the preceptor and friend of Alexander the Great, who placed at his disposal all that power and wealth could procure, of the rarest animals and plants, and other objects of natural history, in the various countries conquered from the Persian king. Aristotle belongs to the history of medicine in various ways: first, by his birth, he being the son of a physician; secondly, by his having, as it has been alleged, practised medicine during some years of his life; thirdly, by his researches in comparative anatomy and physiology; and, finally, by his philosophical doctrines, which exerted, for so long a period, a paramount influence over the mode of teaching all the branches of human knowledge, in the greater number of which he was himself eminent. The division of the functions of the living body, made by Aristotle, is nearly the same as that adopted by Bichat and many other modern physiologists, viz., into the nutritive or vegetable, the sensitive, the motor, and the intellectual. He gives a much more minute and accurate description of the brain, than his predecessors. Nor must it be forgotten, to the honor of Aristotle, that his arrangement or classification in comparative anatomy is that which has been adopted twenty centuries later, by the eminent Cuvier. Aristotle, in his "Politics," in drawing the traits of the European and Asiatic character, borrowed freely from the treatise of Hippocrates, on "Airs, Waters, and Places," as Montesquieu and Cabanis have, in later times. His great merits, as a critic and profound writer on politics and government, do not come within the field of our present inquiries.

There is no great name, nothing truly original or pointedly useful in the history of medicine, that need detain us from a notice of the schools of Pergamus and Alexandria, and the immense libraries and museums by which these cities became, for centuries, the abodes of science and literature, of which medicine constituted a leading share. The happy idea seems to have occurred to both Eumenes, king of Pergamus and Mæsia, and to Ptolemy Soter, king of Egypt, to found public libraries—the former at Pergamus, the latter at Alexandria. Some interesting particulars on this subject are given by M. Renouard, in his history of what he calls the anatomical period, or that between the foundation of the library of Alexandria and the death of Galen—from 320 B. C. to A. D. 200. In the time of the great physician just named, it was enough to have studied in Alexandria, or even to have remained there for a season, to be looked on as a physician. One powerfully contributing cause to the success of Græco-Egyptian medicine was the liberty given to its leaders to engage in the dissection of human bodies, in which some of the Ptolemies themselves took part *en amateur*. This privilege was abrogated by the conquest of the Romans, who, notwithstanding their delight at seeing blood shed, either on the field of battle or in the combats of the gladiators, looked on contact with a dead body as a horrible profanation. Their coming was productive of another calamity—the burning of the great library, by Julius Cæsar, or, at least, by the flames extending from his fleet to the library. The great names of the Alexandrian school, in its first and most flourishing period, under the Ptolemies, were, in connection with anatomy and physiology, Herophilus and Erasistratus, who carried these subjects much further than had ever been done previously. The former was the first to direct attention to the pulse as an index to the state of the body in health and disease; the latter was distinguished for his skill in the practice of medicine Surgery also engaged their attention. Although they are classed under certain medical sects, both Aretæus and Cælius Aurelianus, who lived in the second century after our era, may be regarded as of this school: their treatises, describing both acute and chronic diseases, constitute, it has been said, one of the most precious and useful monuments of ancient medicine. To the former must, however, be awarded the superiority, both in the description and semeiotics of disease, and in purity of style. There is, perhaps, Dr. Watson remarks, no modern writer to whom Aretæus can be more aptly compared than to Heberden. By some he has even been placed above Hippocrates for truth and accuracy of description. His surgical, in the opinion of the same writer, is in keeping with his medical ability. He was the first, as far as Dr. W. remembers, to use the trephine for the cure of epilepsy. Cælius Aurelianus wrote in bad Latin, and is spoken of as a follower and copier of Soranus; but yet, the eight books constituting his work abound in valuable descriptions, not only of diseases, but, still more, of their treatment. He may be considered as the ablest exponent of the methodic doctrines.

Next to Hippocrates, no name in ancient medicine looms out in such bold and bright relief as that of Claudius Galen. If in it Hippocrates be the first great historical personage, Galen is unquestionably the second. No other of equal celebrity intervenes to break the invariable connection between the sage of Cos and the profound scholar of Pergamus, in all our discourses on the progress of medicine and the influence of medical doctrines. Not more inseparably connected are the names of Socrates and Plato in philosophy, than those of Hippocrates and Galen in medicine. There is, also, a resemblance between the two philosophers and the two physicians, in the fact that, as Socrates is mainly indebted for his enduring fame to the eloquent discourses and "divine dialogues" of Plato, so is Hippocrates most indebted for his diffused and subsequent reputation to the learned commentaries and expositions of Galen.

Galen has every title to our respect for his vast learning and critical acumen, his extensive and unwearied inquiries into every department of medicine, his unbounded zeal for its improvement, and, Pagan though he was, for his fervent piety. Where, in the nineteenth century of Christianity, shall we read a finer burst of religious feeling by a Christian physician than when he tells us (*De Usû Partium*, Lib. III, Cap. 14) that, in writing these physiological treatises he was composing "a true and real hymn to that awful Being who made us all; and in my opinion true religion consists not so much in costly sacrifices and fragrant perfumes, offered upon his altars, as in a thorough conviction impressed upon our own minds, and an endeavor to produce a similar impression upon the minds of others, of his unerring wisdom, his resistless power, and his diffusive goodness;" and so in the same strain of appreciation of the wisdom of the Deity, and of adaptation in all his created works.

Galen was born A.D. 131, in Pergamus, in Mæsia, Asia Minor. His native city was early celebrated for a temple dedicated to Esculapius, and still more, in after times, for its school of medicine and its library, second only to those of Alexandria itself. From his father, Nicon, an able mathematician and architect, he received a careful education, with a view to his studying medicine; although he himself tells us that he felt called to do so by an injunction of Apollo, conveyed in two successive dreams. Of his teacher, progress in his studies, travels in distant countries, his surgical appointment on his return to dress the wounds of the combatants in the circus, and his quitting his native city for Rome, we would speak in detail, were room allowed us. A pleasing sketch of the life and merits of this celebrated man is found in Dr. Watson's Discourse; and critical notices of his works are given by M. Renouard. The success of Galen in Rome excited the envy, and his naturally haughty deportment drew on himself the hatred, of the physicians of Rome; and hence his leaving that city and again travelling. He was greatly esteemed by Marcus Aurelius, and enjoyed the confidence of Commodus, and Septimius Severus, the successors of this emperor. He seems to have stood high in the good opinion of the Empress Faustina, and, as a consequence, he became the favorite of the ladies of the court, and the fashionable physician in Rome. He retired in the decline of his days to Pergamus, where he died, according to the most approved statement, in the seventy-first year of his age; but other accounts would make it appear that he survived one hundred and forty years.

There was no branch, scarcely a topic in medical science, on which Galen did not write, and write with signal ability. In his belief of coction and critical days he is entirely in accordance with the school of Hippocrates. He divides the action of medicine into primary and consecutive,—a division and distinction too often lost sight of. Taking his treatise (*De Locis Affectis*) in connection with his writings on anatomy and physiology, they constitute imperishable titles of honor to the physician of Pergamus, and justify, or at least excuse, the extravagant admiration manifested for him during so many successive ages.

His *Ars Medica* was for centuries the text-book upon which the students of Salernum and other schools of the middle ages were examined before receiving permission to practise. Galen was famous for his skill in diagnosis, between which and prognosis he drew lines of distinction which are far from being appreciated as they ought to be by modern physicians, and perhaps less by those of our own than of any former time. It seems to be forgotten, that symptomatology and semeiology or semeiotics are parts of pathology, which latter is now, not only by mere morbid anatomists, but, also, by authors of systems of medicine, almost restricted to a study or observation of diseased structure, only detected after death.

On the fruitful subject of Hygiene, which, in its large and comprehensive sense, is so much neglected, Galen wrote at great length, as well in original treatises as in his commentaries on some of the books of Hippocrates. The doctrine of temperaments, if not entirely original with Galen, was first presented in a shape which, with modifications, has obtained currency in the schools down to the present time. His two most noted works on hygiene are, On the Preservation of Health (*De Sanitate Tuendâ*), and on the "Properties of Aliments." He dwells more than any of his predecessors on the hygienic rules applicable to infancy and old age; and he points out also the influence of habits, and was the first to feel that a regulation of the passions ought to be a part of hygiene.

This truly encyclopediacal writer has rendered invaluable services to the history of medicine by preserving for us the opinions of a large number of physicians whose works have perished, and especially of those of the leaders of the different medical sects. Following the division made by our venerable confrere, Dr. John Redman Coxe, in his summary outline of the works of Galen, which is appended to his abridgment of the treatises of Hippocrates, we meet with, 1. General Introductory; 2. Such as Appertains to Anatomy; 3. To Physiology; 4. To Hygiene, including the Practice of Physic and Surgery; 5. To Materia Medica and Alimentaria; 6. To Philosophy and Metaphysics; 7. To Miscellaneous Subjects. The writings of Galen are said to consist of seven hundred treatises or books; some of them, it is true, not more than what in the present age would be called pamphlets. Other persons, again, represent his contributions to medical science to be equal to five hundred volumes, and to other subjects the same number.

In continuing the outline history of the schools of Alexandria and Pergamus, we find ourselves in advance of the Roman school, as regards chronological order. The first person of note in it was, however, an Asiatic Greek, Asclepiades, born in Bithynia, and educated in the school of Alexandria. He was at first a teacher of rhetoric in Rome, and afterwards took to medicine, in the practice of which he acquired great vogue, and won for himself the friendship of Cicero, who speaks of him not only for his skill in physic, but also for his refined eloquence; a gift turned by him to good account in enforcing his principles of medicine, which consisted chiefly in the observance of diet and other hygienic measures. Among these he laid great stress on frictions of the skin, in connection, we must suppose, with the use of the warm bath, then becoming general in Rome.

Asclepiades was the preceptor of Themison, chief of the Methodists,—

a medical sect thus called, which we hope none of our readers will confound with Christian Methodism. Celsus must be regarded as the first physician of the Roman School who was a native. Aurelius Cornelius Celsus has been called, but it seems to us not very appositely, the Latin Hippocrates, unless veneration for him, the wise old man, of Cos, and the large borrowing from his writings, and the adoption of his opinions, invest Celsus with a filial character, and give him a kind of claim on the family name. He was eminent among his contemporaries for his varied learning and accomplishments; having written on rhetoric, philosophy, architecture, husbandry, and the military art. All these works are lost; but, happily for our science, both in its practice and history, his eight books on medicine have come down to us. They form a concise, yet clear and methodical abridgment of ancient medicine, from the time of Hippocrates to his own, which was in the first century of our era. For our inability to lay before our readers, at this time, the prominent features of the opinions and the works of Celsus, we find consolation in knowing how well this duty has been performed by Dr. Watson, whose sketch of the whole Roman School is one of the freshest parts of his volume, as less in the line of the common if not routine history of medicine. In this part of his Discourse, Dr. Watson introduces the prominent traits of doctrine and creed of the Rationalists, Empirics, and Methodists,—a theme discussed also by M. Renouard, somewhat more at length, but not, we think, with equal felicity. Coming within this period, and in the first century of our era, we meet with the name of Dioscorides, of Anazarba, who has left a Materia Medica, in five books; being the most complete treatise up to his own time, and the one to which we must ever remain mainly indebted for what is known of the views and practices of the ancients on this subject. The other two writers who have contributed to the same object are Pliny the elder, and Galen.

Under the head of the "Age of Transition," and a specified time, which he calls the "Greek Period," M. Renouard carries us along from the epoch of the death of Galen, A. D. 201, to the destruction of the Alexandrian Library by the Saracens, A. D. 640. During this period there offers to our serious study only the life and works of four Greek physicians, who had all studied in the School of Alexandria, which continued to maintain its reputation down to the invasion of Egypt by its Arabian conquerors. Although these writers were chiefly compilers of the works of Galen and of other authors preceding their own time, they have nevertheless, as well remarked by our French historian, rendered essential service by presenting medical science in an abridged and more commodious form, while, at the same time, they enriched it by some contributions of their own; and perhaps they did better service still in keeping up the light which might otherwise have been allowed to be extinguished by their apathetic contemporaries. First of these is Oribasius, of Pergamus, who is scarcely inferior in learning and attainments to his world and all time renowned countryman, Galen. He was the friend and trusted counsellor of the Emperor Julian, the Apostate, at whose instance he undertook an abridgment of the works of Galen, and afterwards a compilation of everything of value in those of his predecessors. This task he accomplished in seventy books, of which seventeen only are extant. He afterwards prepared an abridgment of his large work for the use of his son, which was divided into nineteen books, and which has come down to us entire, as well as another compendium on the preparation of remedies and the cure of diseases. As a French translation of Oribasius, by M. Daremberg, is in progress in Paris, we may be induced to bring him before our readers in a more satisfactory and instructive manner than we can now by the mere introduction of his name, and the mention of the character of his works. Oribasius may be regarded as the last of the Pagan writers in medicine, as Ætius is the first Christian one of any note. This latter, a native of Amida in Lydia, lived towards the end of the fifth century, and beginning of the sixth : he is entitled to our attention, and, we might add, to our gratitude, on the same grounds with Oribasius, as the author of a valuable compilation of the works of the older writers, interspersed with his own original observations. His work is divided into four books, each consisting of four discourses. Alexander Trallianus, so called from his native place, Tralles, in Mesopotamia, after travelling through most of the countries which once made up the Roman Empire in the plenitude of its dominion, fixed his residence in Rome, where he soon acquired a brilliant reputation. Having reached an advanced age, and feeling himself no longer able to encounter the fatigues of practice, he set about composing a treatise, in twelve books, on diseases in which surgical aid is not demanded. Like Aretæus, he restricted his descriptions to a small number of diseases, some sixty in number, as those of which they had acquired personal knowledge. In point of originality, Alexander ranks next to Hippocrates and Aretæus. Paulus Ægineta, or Paul of Ægina, designated after the island in which he was born, is the last Greek writer to engage our attention, and with him we conclude this rapid historical sketch of ancient medicine. He is supposed to have been a professor in Alexandria about the period of its capture by the Saracens, and the destruction of its library, which followed that event. He at first did not pretend to do more than to give an abridgment of Oribasius; but, in the progress of his work, Paulus went beyond his original intention, and drew from many other sources, as well as from his own experience, especially in matters of surgery and obstetrics. The English reader has now access to this most valuable compilation of ancient medicine in the translation, with pertinent annotations, by Mr. Francis Adams, which has been brought out by the Sydenham Society of London.

We cannot separate from Dr. Watson without expressing our strong desire to see a somewhat similar account to that furnished in his "Anniversary Discourse" "of the Profession among the Arabs of the East and West, among the Byzantine and Latin Schools, and the Monastic Medical Institutions of the Middle Ages," for which he has, we learn, the materials on hand. It would give us much pleasure to be able, once more, to avail ourselves of his company and instructive remarks, at the same time that we should be drawing from the stores contained in the second and larger part of M. Renouard's History, which the present is not the opportune time for introducing to our readers.

ART. II.—*A Treatise on the Practice of Surgery.* By HENRY H. SMITH, M.D., Professor of the Principles and Practice of Surgery in the University of Pennsylvania; Consulting-Surgeon to the St. Joseph's Hospital, Philadelphia. Author of a Treatise on Operative Surgery, etc. etc., illustrated by two hundred and seventy-four engravings on wood. 8vo. pp. 828. Philadelphia. J. B. Lippincott & Co.

A satisfactory text-book on surgery remains to be written. Perhaps the thing itself is impossible. Limited space, the stern necessities of a single octavo, which must contain a compend of every surgical fact or theory, practical or pathological, forbid amplification and cramp the efforts of the impatient writer. *Nolens volens*, he must repeat that never-to-be-sufficiently-enunciated fact, that heat, pain, redness, and swelling, are the four cardinal points of inflammation; enlarge upon the goodness of that Providence which incloses an abscess in a membrane, and leads its pus toward the surface; and define again, for the five hundredth time, the distinction between gangrene and mortification. All this must be done because we, the reading medical public, have said so; we have virtually decided that all books, not devoted to specialties, shall be written down to the comprehension of the first-course student; and that the intelligent practitioner, who has been duly posted on these stale matters of fact by every surgical work in his library, shall renew his early teachings by a re-perusal, and be left to seek the new things of science among the overshadowing mass of old.

He will be a bold author, and, moreover, one utterly regardless of pecuniary results, who shall strike out a new course, and write a book made up of positive additions to science. Such a volume may not attain to the dignity of octavo dimensions, but what a treasure would even a duodecimo be to the practitioner, wearied with this endless reproduction of the rudiments.

That this repetition is a fault chargeable upon Professor Smith's new work, is no very serious accusation. The author, in his preface, speaks of it as a text-book, intended to assist the students of his class. That its scientific qualities are sufficient for their end no one will deny, and we shall possibly find that it possesses a few higher excellencies. We may here say, however, that so long as medical authorship is made a mere waiter and helper in the teaching of under-graduates, so long as men write because they are professors, and not because they have something to tell, just so long will our literature partake of the school-boy character, the lack of scientific accuracy and precision, which is the bane of our medical writings.

The term "Practice of Surgery," is somewhat indefinite. Practical surgery would include all surgical operations and treatment, leaving entirely out of view the theories, pathological or therapeutical, on which those operations are based. In the sense employed by Professor Smith, it includes far more than the mere practice of the art; and embraces surgical semeiology and pathology. He seems to have lost the distinction between principles and practice, and, as a result, we suffer from a confusion of ideas as to the light in which it is intended to be viewed.

To come at once to particulars, we may remark, that the opening chapter on "Surgical Diagnosis," is a systematic and careful *resumé* of the general principles which govern the recognition of disease. We appreciate the evidences of system which this chapter displays, and though there is nothing original in the idea that certain signs are common to diseases of certain tendencies, and that much may be gained by a careful inspection of the posture, physiognomy, color, temperature, and sensations of the patient, yet the text-book which failed to impress this important fact upon the student, would be deficient in an essential particular. We have seen many an unfavorable prognosis formed on the simple fact that the patient "looked badly," and too often have witnessed the verification of that prognosis. A full analysis of "characteristic symptoms" is a desideratum. The task would be an interesting one, but would require far more than ordinary attainment. A profound knowledge of those principles of physiology, which underlie all true pathology is the first requisite; with it, must be coupled an intimate acquaintance with the physiognomy of disease.

A brief chapter "On the Use of the Senses in Forming a Diagnosis," strikes us as an excess of refinement. It is one of those hair-splitting, intensely logical distinctions, which ordinary mortals fail to appreciate. How, we may ask, is the surgeon to form a diagnosis *without* the use of the senses? Deaf, dumb, blind, tasteless, incapable of smell; a diagnosis is an impossibility. The shrewd surgeon need not be told that he is to recognize a change in color, by the eye; and that it will then be very well for him to feel of it, and ascertain its hardness or softness. There is a lack of directness in all such fine-drawn notions, and, though their topic is faultless, their utility is not beyond question. Fortunately, this chapter, into which a love of system has betrayed Professor Smith, is a brief one; had it been omitted altogether, our ideas of propriety would have been better pleased.

"Surgical pathology," we are told in the beginning of Part II, "as a branch of general pathology, embraces the considerations of the characters and *means of relieving* external disorders." The looseness of definition in the words we have italicized, should be corrected in any subsequent edition. The "means of relieving" diseased action are no part of pathology.

In the discussion of "inflammation," the ancient division of its causes into exciting, predisposing, and essential or proximate, is adopted. Perhaps no form of classification has been more fruitful in confusion than this. We may speak appropriately of an injury as an exciting cause; a predisposing cause is no cause at all, but simply a condition of the system, liable to be affected by an exciting cause; while in all our theories of "error loci," "lentor," or spasm of the capillaries, it is evident that the *actions* of inflammation are confounded with its *causes:* that is, our proximate causes are simply a part of the process. A dispute is never so interminable as when it commences in an error of nomenclature.

In the chapter on the etiology of inflammation, our author follows closely the views of Paget, with occasional allusions to other well-known writers. We notice that he assigns longitudinal retraction of the elastic coat, as the cause of the dilatation of the arteries. This idea has the distinguished sanction of Mr. Paget; but it seems, nevertheless, insufficient to account for the phenomenon. Such an abbreviation of a capillary as to triple or quadruple its diameter does not in reality take place; and we are still disposed to assign at least a part of the distension to the *vis a tergo,* upon the paralyzed muscular coat.

The treatment of inflammation is introduced before the discussion of its sequelæ; an arrangement which renders it difficult to properly enforce those modifications of treatment, which may be called for by the tendencies of the process toward one or another termination. We may remark, here, in general terms, that Professor Smith's views of treatment are characterized by great attention to detail, and by neatness and nicety of application. The influence of such a quality upon the student is decidedly beneficial. The coarse, slovenly manner in which surgical remedies are too often applied, is a barrier to their success. The business prosperity of the surgeon depends very much upon his care in the application of a bandage, his precision of movement in reducing a fracture, or the accuracy of an incision; and, as the common people are very good judges of this kind of merit, it cannot be too strenuously inculcated by the teacher. It is, however, to some extent true, that the mind of the philosopher is incapable of the appreciation of detail, and to that fact must we assign the circumstance, that so many good investigators of the principles of surgery, are such bungling operators. Occasionally, we find a man born to be a surgeon, possessed of the philosophical mind, the resolute heart, the keen eye, the ready hand, and the unfailing nerve of the military genius, with the quick perception, and the gentle touch of a woman.

To return to the treatment of inflammation. Such paragraphs as that on the preservation of leeches, on page 64, are rather interesting to the apothecary than the surgeon; and belong of right in the U. S. Dispensatory. Those on their application, on the use of the seton, the moxa, or of issues, are neat and careful therapeutical descriptions, and well illustrated by plates. These matters of minor surgery, are apt to be neglected in our text-books, and we are glad to see their importance recognized.

Section 3, "On the Constitutional Treatment of Inflammation," is a most evident misnomer. It is an essay on the use and mode of application of the tools used in the treatment of inflammation. Why depletion cures inflammation, or whether it cures it, or whether it is proper to use it always, or only occasionally, are questions which do not seem to have suggested themselves to our author. On page 70, we have the "Treatment of Inflammation" condensed into a neat little wood-cut, showing "A. A Thumb Lancet," and "B. A Spring Lancet." On the opposite page, is a view of the operation of venesection, by "A. The Thumb Lancet;" while page 72 has an equally neat illustration of the manner of using "B. The Spring Lancet." In an operative surgery, under the head "Venæsectio," its exactness would have excited our admiration; but just at this place, we were studying how to cure inflammation, not how to pull the trigger of a spring lancet.

The same "error loci" is evinced in the subsequent paragraphs on Anodynes, where, instead of a discussion of the surgical efficacy of this class of remedies, we are told that opium is, when uncombined, a little apt to promote vascular activity, and that, in the treatment of inflammation, "one grain of calomel, and ten of Dover's Powder, given at night, is an excellent combination." This is a square-rule sort of treatment, the propriety of which is questionable.

Under the head of "Sedatives" we have a pet formula of aconitum napellus recommended as good for inflammation. We do not mean to be understood to assert that Professor Smith uses those words; but, dropping all badinage, we enter an earnest protest against this substitution of a chapter of materia medica for intelligent views of the treatment of inflammation. It is well known that, at this moment, the question whether the lancet shall or shall not be retained as the most familiar of weapons in combating inflammation, is a subject of active and able debate. The gradual growth in the medical mind of a distaste for active depletory measures finds no reflection in the chapter under notice, and, for aught it tells the student, he would be ignorant of the existence of any question as to the merits of depletion.

In the succeeding chapter, on the "Products of Inflammation," Professor Smith follows the usual division of the effusions consequent upon that process, viz., effusion of serum, of lymph, and of pus. But are not most writers in error here? Can an effusion of lymph occur without serum? Is there a power of selection in the vessels by which they choose the fibrinous element of the liquor sanguinis and effuse it, unaccompanied by the serum? Is a simple effusion of serum—the ordinary œdematous swelling—ever a direct immediate result of the inflammatory process proper? The straining through of the serum, which constitutes œdema, is a process of asthenia, not of sthenic disease. Only one effusion occurs in reality,—that of the liquor sanguinis as a totality. In this effusion variable quantities of fibrin may be found; this dependent, not on any selective power of the vessels, or any condition peculiar to inflammation, except the relative proportion of fibrin held in solution by the serum. If fibrin abounds, it will coagulate outside the vessels, forming a dense hard swelling; if it is wanting, we shall have a serous effusion, simply because the fibrin is not in the blood, and, it being wanting, one of the conditions of inflammation is also wanting. It seems to us that such a view of inflammatory effusions is at once truthful and simple. At present, the student almost necessarily imbibes wrong ideas of the constitution of the liquor sanguinis from the unnecessary distinction made by authors. Under the head of "effusion of pus" we shall recur to this idea.

The views given of the organization of lymph, and of union and adhesion, are those of Paget. We are pleased to see that the old dogma of the necessity of a degree of inflammation to secure a union is ignored, and that the student is taught to expect union without exudation. The description of the formation of fibro-cellular tissue by change of the lymph-corpuscle, and the formation of "cacoplastic lymph" in effusions having a deficiency of fibrin, are well given; as are those of the channelling process, and of the fusiform enlargement in the formation of new blood-vessels.

In denying the pus-secreting power of the "pyogenic membrane," Professor Smith virtually denies the effusion of pus. Like other recent authors, he speaks of pus as an "effusion," while he denies to its only source the power of effusing it. This bit of logic resolves itself into the conclusion that pus is never "effused" or secreted,—a conclusion which, by the way, is strictly correct. "Pus-secretions" and "pus-effusions" are misnomers which should be stricken from surgical etymology. The "pyogenic membrane" secretes lymph-corpuscles, and these are metamorphosed into pus. Metamorphosis is the word, and the sooner we come to it the better for the poor students, who with great labor acquire a knowledge of the effusion of pus, which must again be unlearned before they can obtain any correct notions. We have no doubt whatever that one-half the practitioners in the United States would be willing to swear that the pleura can become a pus-secreting membrane, and prove it by all the text-books on surgery, and by the lectures they heard at college. And yet that such is not the case, is a fact about which there can be no dispute, except with those unfortunate individuals whose ideas have been derived exclusively from one or other of these sources.

The description of "abscess," though a little cloudy, is in accordance with philosophical views. The "wall" of a pus-collection assumes its proper importance as an effusion of lymph in the areolar tissue, which may in time, or may not, assume the power of secreting lymph-corpuscles to undergo metamorphosis into pus. The assertion that, "whether acute or chronic, all abscesses have one common characteristic, to wit, the limitation of the space into which the pus is effused," is a little too broad, unless it is intended to distinguish diffused suppuration from abscess proper.

As to the treatment of abscess, we object with some personal feeling to that invention of the enemy known as spongiopiline. Its scalding, irritating, scratching, burning effects became fully known to us once when suffering from a slight dissection wound. The arrowroot poultice—not mentioned by our author—is the elysium of emollients.

Ulceration is treated of as "molecular death," in accordance with the modern view, although some question may exist as to how far our doctrine of cell-death, as taught to-day, differs from the theory of "disintegration," as taught in contradistinction to the views of Hunter, many years ago. We pass over the space devoted to the classification and treatment of ulcers, to come into the field of active surgical practice.

In the chapter devoted to Erysipelas, we find the following general rules of treatment:

> "But generally the treatment of erysipelas should be directed almost entirely to the constitutional derangement, the local disturbance being only evidence, as a general rule, of constitutional derangement of an asthenic character. The treatment, therefore, should be based on this principle: Thus, in the first place, it is a good practice to administer an emetic, as it empties the stomach, gets rid of indigestible articles, and affects favorably the portal circulation, or, as the celebrated Dr. Rush used to say, in homely language, 'shakes the gall-bladder;' and, when followed by a dose of calomel and jalap, 'clears the ship fore and aft.'"

This general recommendation involves a sweeping hypothesis, and reminds us of a question put by a lawyer, the other day, to a succession of medical witnesses. The question covered three pages of foolscap, involving many different suppositions, but the doctors were compelled to answer yes or no. Now this plan of treatment supposes, 1. That the stomach should be emptied; 2. That it contains indigestible articles; 3. That the portal circulation must be disturbed; 4. That a shake to the gall-bladder is advisable; 5. That the ship must be cleared fore and aft. The tyro is not cautioned to be sure that the stomach contains anything wrong, or that there is any necessity for disturbing the secretion of bile; neither to inquire whether the "asthenic character" of the disease will be benefited by this knocking "fore and aft." Much better do we appreciate the talk about beef tea and quinine, which is suggested as an after-treatment, and we would have been glad to have seen some mention made of iron, in this connection, particularly the muriated tincture of that metal.

The subject of "Carcinoma," is handled in the manner most appropriate to a work of this kind. It is a brief *resumé* of the opinions of Paget, Lebert, Bennett, and others. Without attempting to discuss fully the pathological or microscopical characters of cancer, enough is said to give the student a fair idea of what constitutes cancer, and how much reliance may be placed on the presence of what is called the cancer-cell. Professor Smith does not define any special cell as peculiar to this disease; but following the more recent and sounder views of late observers, he assigns to it a variety of forms of cells; the multiplicity of forms constituting one of the signs. The recent discussion in the French Academy has had a salutary influence on our estimate of the value of the microscope in diagnosis; for, though many extravagant opinions were uttered, both for and against it, the general tone of the debate, while it lessens our confidence in the microscope alone, does not impair its real usefulness as an *assistant* in diagnosis. We may add that the chapter on carcinoma is, throughout, clearly written; and is an excellent, condensed account of the disease and its treatment; the latter striking us as sensible, and founded on just views of what may be accomplished.

In passing on we must express our regret that the section on animal poisons contains no mention of the valuable experiments of Professor Brainerd, of Chicago, whose widely-published essays on this subject have deservedly attracted so much attention. We shall have occasion to allude to the same apparent neglect of his countrymen in another connection.

Without stopping to notice the subject of wounds, other than to express our gratification at the large use made of Mayor's handkerchief bandages, we come to the subject of 'Fractures.'

Here we find that our author, who has so closely followed the pathology of

Paget heretofore, finds reason to differ on the matter of definitive and provisional callus. It will be recollected that but a short time since, Paget, in his lectures, advanced the opinion that "provisional" callus was not the beneficent plan of nature it had been supposed to be, but an unnecessary accident, depending upon inaccuracy in the adaptation of the broken fragments to each other. At the same time, or probably a little before, say four years since, Professor Hamilton, of Buffalo, promulgated entirely similar views. The question of priority in this doctrine, or at any rate in its publication in America, having been somewhat mooted, we may state from our positive recollection that Professor Hamilton's first publication preceded any announcement of Paget's theory in this country, of which we have any knowledge. We can hardly suppose Professor Smith to have been ignorant of this fact, it having been somewhat freely discussed in the journals, and were it not for the bad habit of some American authors of ignoring each other, and relying on European sources of opinion exclusively, we should doubtless have had some recognition of Professor Hamilton's fair claims to notice in this matter. We may add, too, that having carefully looked over the 130 pages devoted to fractures in this volume, we do not find Professor Hamilton's name mentioned in connection with the literature of fractures. We have no desire to claim undue respect for that gentleman, but we are entirely mistaken in our estimate of authorial merit, if the brief fracture-tables of Professor Hamilton do not entitle him to honorable mention from a systematic writer on that subject. We should insult Professor Smith by supposing that he is not familiar with them.

To return to provisional callus: Professor Smith prefers to adhere to Dupuytren, and consider this "ensheathing" callus (that is the preferable name) a necessity of fracture. He says: "Wherever a fractured bone is superficial, as in the clavicle or in the tibia, the bump or protuberance caused by the provisional callus, will often be too plain to be mistaken; whilst very many specimens of fractures recently united and surrounded by a true provisional callus, that is, one which is larger a few weeks after union than it is some months subsequently, are to be found in most surgical cabinets."

Admitting all this, we are at a loss to see what it proves. In our own practice, we have repeatedly, perhaps generally, in simple fractures of the tibia, secured a union without any perceptible callus. We attribute this to two causes: 1st. An accurate adaptation of the broken fragments, more easily attainable in the tibia than elsewhere, and, 2d. To comparatively slight separation of the periosteum from the bone. Supposing the periosteum to be lifted from the bone to any considerable extent, the clot of blood intervening will inevitably organize into bony tissue; but, the periosteum remaining attached, any deposit of bone taking place in it, will be due to inflammatory exudation. This inflammatory exudation may be avoided by early and accurate adjustment of the fragments. Ensheathing callus, found in museum specimens, only proves a faulty adaptation or extensive lesion of the periosteum; but even where such extensive lesion occurs, should the periosteum regain its union with the bone by first intention, no callus would, in our opinion, occur. These views are analogically supported by what we daily see in union of the soft parts. Furthermore, wherever we have found difficulty in maintaining the adjustment of the fracture, we have also found abundant provisional callus.

We do not find that any mention is made by our author of the delay in adjustment of fractures, which has recently become fashionable. He assumes, by this failure to notice it, that a fracture should be dressed at the earliest possible time, and in a manner intended to be permanent. We are glad to find that a text-book intended for students, thus ignores a practice which is the *ne plus ultra* of blind confidence in nature. It is assumed that it is as well to wait until, inflammation having subsided, the process of union can begin. But when will inflammation subside, with a fragment of bone irritating the soft parts? Will not an extensive ensheathing callus result from the failure to bring the periosteum back to the bone? Viewed in the light of all we know of union of tissues, this new-fangled notion is one of the most absurd in the history of surgery.

We are surprised that the relations of the middle meningeal artery to fractures of the lower anterior angle of the parietal bone, are not more fully mentioned. During the past summer we have been twice called upon to make autopsies, which revealed simple fissure of the bone at this point, but involving a rupture of the artery at the part where it is bridged by bone, and causing death by effusion of blood.

For fractures of the clavicle, Fox's apparatus is evidently the favorite of our author. We are inclined to consider it the best in use, but we should dissent from the opinion expressed, that a perfect result is attainable with it at will. Of 53 cases of this fracture recorded by Professor Hamilton,* 13 are mentioned as treated by Fox's apparatus. Of these, 7 are reported imperfect, 5 slightly imperfect, and only 1 perfect. Many surgeons will recollect the discussion on this point at the meeting of the American Medical Association in Philadelphia, in 1855, and the result of an examination of cases under treatment at the Pennsylvania Hospital. Moreover, the opinion of all surgeons concedes the difficulty of securing a positively perfect result in fractures of the clavicle; and so long as our text-books do not openly recognize this opinion, so long will practitioners and patients alike expect too much, and mal-practice suits result. We are not of those who would depreciate the triumphs of surgery; but mal-practice suits are abundant enough to teach us that it is an expensive luxury to lay claim to skill which we do not possess.

---

* Trans. of Amer. Med. Association, 1855, page 418.

The notice of fractures of the scapula, is judiciously brief. We are sorry to see that impossible wood-cut reproduced from Fergusson. Fractures of the coracoid process are mentioned as very rare. Compared with other fractures of the scapula, we think their frequency is under-estimated. As to fractures of the acromion, our author raises the hypothesis that they are frequently only separations of the epiphysis, it having failed to co-ossify fully. Dr. J. B. S. Jackson, of Boston, is, we believe, the author of this suggestion or hypothesis.

Fractures of the humerus are more fully noticed, but we find no mention of the recent proposition to dress with the elbow extended, thus securing the weight of the forearm as an extending power, and materially diminishing the movement of the fragments upon each other, which is so common a cause of non-union in this bone. A glance will show that this form of dressing, transfers all such motion to the shoulder-joint, while the flexed position makes every motion felt at the point of fracture, the lower segment describing the arc of a circle.

Fractures of the forearm are well and practically described; Barton's fracture especially. Bond's splint is described and recommended. Probably the author was not aware that Bond's splint has been recently very much improved by putting in a joint to correspond with the wrist; so that any degree of lateral flexion may be obtained, while the same splint is applicable to either arm.

So far as other fractures are concerned, we find little that is noteworthy. The descriptions of symptoms, the differential diagnosis, and the treatment, are given with, we believe, uniform correctness and clearness.

In the treatment of ununited fracture, the author's natural preference for his own mode of treatment leads him into some injustice to Professor Brainerd. Professor B. has made most elaborate and practical experiments upon the management of this accident, and it is unfair to him to pass by his labors with the single sentence, "Dr. Brainerd, of Chicago, has also proposed to drill a number of holes in the end of a bone with an awl, with the same view,"—that is, the production of inflammation. Dr. Brainerd has not only proposed this operation, but has successfully performed it in a series of cases sufficient to entitle it to a respectful consideration. Other surgeons have adopted it, and without any of those dangerous results which are described on page 449. We quote:

> "But in order to make use of any of these modes of treatment, it becomes necessary that the patient should for a long time retain the recumbent position; whilst he is exposed to the risks of the creation of a compound fracture, in which

suppuration may take place, and where the pus travelling up and down the limb in the intermuscular cellular substance, will establish a drain upon his vital energies, which may cost him his life. Or, if these dangers are escaped, erysipelas may be set up, and he will be exposed to all its evils. It has also happened more than once, that, after submitting to one of these painful operations, and perilling his life, he has subsequently been obliged to submit to amputation."

Now let us inquire how much of this pathetic picture belongs to Brainerd's operation, and how much to Physic's and Dieffenbach's, with which it is coupled. The confinement to the bed is only necessary in fractures of the lower extremity; the risks of compound fracture are beyond our comprehension; we are at a loss to see how an operation like Brainerd's can produce the suppuration which has such terrible consequences; and we have yet to hear of any erysipelas resulting from it. All these disasters, with the amputation which closes the tearful catalogue, are the results of Dieffenbach's or Physic's operations; and it is in the highest degree unfair to couple Brainerd's operation with them, so as to make a nominally truthful paragraph convey an erroneous impression. We regret to speak with so much plainness; but the matter required notice, and Dr. Brainerd deserves a vindication.

As to Professor Smith's dressing, it consists of an apparatus forming a firm casing for the affected limb, so as in fact to constitute an artificial limb. The idea is philosophical, and, we should judge, likely to be successful in many cases. The time occupied in the cure is a serious objection. In some cases, recovery has occurred so soon as six weeks; in others, seventeen, nineteen weeks, or five months were required. Compared with Dr. Brainerd's operation, the latter has the merit of greater cheapness, less incumbrance with splints, and more positive certainty. But the two together may be considered as essential improvements, which will do away with the necessity of amputation.

Reid's method of reducing dislocations of the hip-joint is fully indorsed. The laughable dispute as to the originator of this operation receives only casual notice. We have a friend who is extremely indignant towards Dr. Kane for claiming to discover the open Polar Sea, when he (our friend) had long been aware of its existence as a matter of theory. Similar discoverers have magnified their own knowledge of this method of reduction. It is something incomprehensible that they were so continent in their knowledge.

The treatment recommended for *morbus coxarius* is virtually that of Dr. Physic. Perfect rest and confinement on a splint are enjoined from the outset; the use of purgatives, bleeding, and counter-irritants form its principal features.

We are told in reference to the use of cathartics in this affection:

"This purging not only acts on the principle of revulsion, but also by relieving the congestion of the portal circle. The function of nutrition is, therefore, more actively carried on, and instead of being exhausted by frequent purgation, the patient sometimes actually grows fat under the treatment."

Here is another specimen of reasoning from hypothesis. When has it been proved that congestion of the portal circle is one of the conditions of hip disease? We had hoped that the strumous character of this affection was recognized. Is it possible that we have made no advance during the last half-century? Are the results obtained from this mode of treatment such as to encourage us? The first element in the treatment of morbus coxarius is to invigorate the general health. Out-door air, moderate exercise, tonics, and nutritious diet from the outset, and the avoidance of all debilitating agents, are the means to be relied upon for this purpose. A treatment which destroys appetite, wastes the muscles, and enfeebles the powers of life, will never get rid of the constitutional vice which *is* morbus coxarius. How to reconcile the necessity of rest to the afflicted joint with a proper maintenance of the general health is the problem which now demands the ingenuity of the surgeon.

The space assigned us is already occupied. We can only notice the excess of brevity, which marks the description of the diseases of the eyeball and its appendages. It is better to leave the eye to special writers, than to waste time upon entirely inadequate descriptions.

As a whole, we should speak of Smith's Practice of Surgery, as a doubtful addition to our means of teaching. The practitioner, seeking for that which is new, will find but little to reward his quest; neither will he find it a volume which marks the present state of surgical science. But, in by far the greater proportion of its teachings, he will find the word of assured truth—conservative to a fault—but reliable. The reader, interested in surgical discussions and in the claims of American surgeons to honorable mention, will peruse this volume with pain. There is the old subservience to European opinion, the old colonialism, which eighty years of national existence has not destroyed. He will notice, too, occasionally, a want of recognition of the labors of his compeers, which, whether it originates in the subservience to European mind, already noticed, or, in other reasons, is alike worthy of censure.

But we have devoted sufficient space to detail, to render it unnecessary to give any formal opinion of the work under notice. When we sat down to its perusal, we expected the pleasure of conceding to it, in all departments, a high degree of merit. Wherever we have been able, difficult as was the task, we have done so. In our meed of praise or censure, we have endeavored to be alike truthful.

We have, however, omitted to mention a remarkable inequality, which is evident throughout the volume; because we were unable to explain it. Haste in the preparation, a strong but unenlightened deference to Paget in all matters of pathology, and the attempt to write down to the comprehension of students, are the probable causes of this inequality. Whatever its source may be, we trust, that if Professor Smith is to take a permanent place among our surgical writers, which, however, we are inclined to doubt, he will avoid a similar fault in the future.

ART. III.—*Cretins and Cretinism:* A Prize Thesis of the University of Edinburgh. By GEORGE S. BLACKIE, M.D., Curator of the Botanical Society of Edinburgh. Edinburgh, 1855: 8vo. pp. 70.

IT is generally known, at the present day, that the great degeneracy of the human race, designated by the name of Cretinism, from the Latin word *Creatura,* is spread over the greater part of the valleys of the Alpine chain, which traverses several of the European countries. The honor, however, of ameliorating the sad condition of this unfortunate class of persons, was reserved for Dr. Guggenbühl, who (as we are informed by Dr. George S. Blackie, of Edinburgh, in his valuable and excellent treatise on Cretinism) "first formed the idea of establishing an abode for cretins, and place for their relief and cure." Let us throw a cursory glance over the life of this great philanthropist, to enable us to understand the laudable and praiseworthy motives, which induced him to devote his entire energies to the accomplishment of that great aim—"the restoration of the cretins to the form and condition of men."

Dr. Guggenbühl was born at Milan, in Canton Zurich, in 1816. From his earliest childhood, he evinced a decided inclination for medicine; and at the age of sixteen years, occupied himself in gathering plants, for the purpose of obtaining information of their medicinal properties. At the gymnasium of Zurich, he studied medicine and the natural sciences, under Schœnlein and Ocken, and philosophy under Troxler. Wishing to learn the primitive manners of the people, the natural products, and the diseases incident to the country, Dr. Guggenbühl, in 1836, travelled among the High Alps. At Zeedorff, in the Canton Uri, he observed an unfortunate cretin, muttering a prayer before a cross. He followed him into his cabin, when the mother told him her son's pitiable condition. This sight first gave an impetus to the philanthropic motive, which had heretofore lain dormant in the heart of this noble man; and from that moment, he determined that, by the grace of God, he would devote his life and energies to the great cause he had in view, saying, that "it was better to save one human soul, than to acquire all earthly treasures." Having finished his medical studies, he resided for two years at Cleinthal, in the Canton Glaurus, where his whole time was devoted to the study of cretinism. By a second tour through the mountainous parts of Switzerland, he was able to make an estimate of their immense number. It was at this time that he resolved to mature his plan of forming an establishment for the treatment of cretins. Many obstacles were thrown in his path. He was obliged to contend with envy and ignorance. In Canton Berne, they even went so far as to say that these unfortunate beings were indeed only animals, and that it was greatly to be regretted that a young man should consume his strength in so fruitless an object. Not allowing himself to be disheartened by these attacks, Dr. Guggenbühl placed the subject before the Swiss Association for the Advancement of Science, and, after much perseverance, and with the invaluable assistance of Emanuel de Fellenberg, of Hofwyl, and that of Dr. Mederer, of Geneva, a pupil of Pestalozzi, his desires were finally accomplished. His next object was to seek a desirable locality for his hospital; and, knowing that the greatest advantages were to be derived from purity of atmosphere, he determined that it should be at as "high an elevation as practicable." He therefore chose the hill called Abendberg, near Interlachen, in Canton Berne; it is three thousand feet above the sea; and at this height, cretinism has never been known to occur. A more desirable locality could not possibly have been selected. Abendberg is in the midst of the chain of the High Alps, embosomed in the most beautiful scenery, which, even upon the minds of the most miserable, must leave a powerful and lasting impression. The view from this mountain, is one of the most exquisite in Switzerland. At its base lie the two unruffled lakes of Thon and Brienz, in whose clear surfaces the highest ridges of Oberland are mirrored. In the distance rises the queen of mountains, the beautiful Jungfrau, well guarded by her two gloomy companions, the Eiger and the Monk. Nature is pre-eminently glorious in this unrivalled region: this is acknowledged to be true by all who have seen it; and even the "blunted minds of the young cretins, as they open to a consciousness of their existence," seem to recognize its great beauty. Such was the spot upon which was erected the first cretin hospital, an institution designed for the amelioration of this most unfortunate class of beings; and how grateful should all humanity be to that man, whose untiring efforts and almost incredible perseverance finally won for him the desired accomplishment of his benevolent enterprise! In describing this hospital, Dr. Blackie says, "that it consists of about twenty rooms, among which are three large halls, a bath-room, and hall for gymnastic exercises in the winter-season. All the rooms can be heated, and the dormitories are supplied with ventilators. The kitchen has an iron kitchen-range, and a basin for supplying the baths. Two fountains supply them with a pure, excellent drinking-water, which can be collected in two reservoirs." At a later period a second building was added, intended as a residence for the mothers who wished to learn the necessary treatment of their deformed children. In 1842, an English philanthropist of London visited Abendberg, and spoke enthusiastically of this new establishment and its great success, in a pamphlet, entitled, "Some Account of Cretinism, and the Institution for its Cure, on the Abendberg, near Interlachen, in Switzerland." Dr. Twining, the gentleman alluded to, used his utmost exertions to engage all good-hearted and charitable Englishmen to sustain this noble work, as Switzerland, which numbers several thousand cretins, was not able to furnish the necessary funds. Dr. Twining will ever be honored by posterity for the zeal which he evinced in this cause; his latter years were consecrated to it, and in his dying hour his thoughts still wandered to Abendberg, which, even in such a moment, maintained its strong hold upon his affections. His father, Richard Twining, also took an active part in the civilization of the cretins; and nearly all that has been done of late in England toward the improvement of the condition of idiots is justly due to the repeated and persevering exertions of these philanthropists.

Cretinism is perhaps more prevalent in the Alps of Switzerland than in any other portion of Europe. It was first noticed by Platner, about the middle of the seventeenth century, as occurring among the peasants in Carinthia and the Valois. It was afterwards found in a greater degree in other valleys of Switzerland.

M. de Saussure, in his "Voyages en Alpés," observes that it occurs most frequently in the Valley of Aosta, at the foot of Mont Blanc. A valley of Canton Argovie contains twenty-eight villages infected with cretinism. At the commencement of this century there was not one cretin in the village of Buchs, while at the present day there are upwards of fifty. At Martigny the disease is visibly decreasing; at Viége it has already diminished one-third, the number of its cretins being now about thirty; there are perhaps almost as many in the neighboring village of Mundt, which consists of 200 inhabitants. According to Dr. Blackie, "among the 2,188,000 souls who form the population of the Swiss Confederation, no less than 20,000 persons suffer in a greater or less degree from this disease."

Nor are France and Norway exempt from it. In various parts of Rhenish Prussia and in Austria, it is very common. In Upper Austria, it is so prevalent that "entire families consist alone of cretins;" and upon examination 6000 were found in Steiermark. The disease is also endemic in the highlands of Bavaria and in Denmark. The number of cretins in the kingdom of Sardinia is supposed to be upwards of 10,000. In Algeria, and in China, among the Himalayan Mountains, they are frequently found. But it is of most frequent occurrence in the valleys of Switzerland, and it is there, as we have already seen, that active measures have been taken for the promotion of a durable and well-established cure.

Let us now glance at the various hypotheses regarding the origin of this disease. By the word cretin we understand "a being deformed and distorted, an abortion of man, peculiarized by a pale, leaden color of the face, by a flaccidity of the flesh, an unexcitable nature, an extraordinary amount of laziness and inactivity, and inability to speak or utter articulate sounds, and generally with very large goitres, a circumstance which has led to a much misunderstood connection of the two complaints." Dr. Guggenbühl defines cretinism to be "a disease of the cerebro-spinal system, causing a want of development of the body and perceptive faculties, and considers that if this disease of body be removed, the maladies of the mind will be more easily overcome than in those cases in which the body is in full vigor and the mind idiotic." Dr. Guggenbühl divides cretins into four classes: 1. The atrophied cretins; 2. The rickety cretins; 3. The hydrocephalic cretins; 4. The congenital cretins. Dr. Blackie tells us that by some the cause of cretinism is attributed "to a cachectic state of the body, which, inducing scrofulous rickets of the cranial bones, and causing them to press on their nerves at their origin, produced the phenomena of idiotcy;" an opinion in which Dr. Blackie seems fully to concur.

With some, cretinism first shows itself in a stunted growth of body; with others, the body is well formed, but the mind totally extinguished; some are able to hear, but cannot speak; and it very often occurs, that cretins are both deaf and dumb, and that their body and mind are equally degenerate. The appearance of this unfortunate class of persons is, at times, most revolting, and travellers passing through the valleys of Switzerland, have often been unable to distinguish them from the brutes.

The first symptoms of cretinism is regarded by Kohl to be a dulness of the eye, by which one is able to tell whether or not the child is idiotic. When this makes its appearance, the countenance becomes inanimate, the legs bend inward, and it is only with great difficulty and awkwardness that the child can walk. Thought and feeling gradually fade away, until finally he becomes a perfect cretin. His entire being is changed. All human instinct seems to have disappeared, and he becomes malicious and cruel. We will quote a part of the description of the cretins given by M. Fodéré, in his "Traité du Goître et du Crétinisme:" "The smallness of their heads," he writes, "is disproportioned to the rest of the body; their heads are flattened at the summit and at the temples, and the tuberosity of the occiput is less projecting than natural; their eyes are small, sometimes deeply sunk, at others prominent; their look fixed and stupid; their chests are flat; their fingers thin and long, with small articulations; the soles of their feet flattened, and sometimes bent. When he has attained his full stature, which is from thirteen to sixteen decimetres, the cretin's skin becomes brown, his insensibility continues obtuse, he is indifferent to cold or heat, or even to blows and wounds, and is generally deaf and dumb. Cretins often eat with avidity raw onions, and even charcoal, which proves that the organ of taste is gross and imperfect." There has been great diversity of opinion regarding the longevity of cretins. It is asserted by Kohl, that their miserable lives are often prolonged to upwards of seventy years; the generality of persons, however, believe that it is not uncommon for them to live thirty years, and that, upon attaining this age, they generally die; and most truly do we hope this to be the case, for the approach of death must illumine their darkened, chaotic minds, with a ray of pleasure, the "one pearl," it may be, of their inanimate existence, bringing with it an intense longing for the severing of the leaden chain which binds them to this earth, where they have lived,

"Deformed, crooked, sere,
Ill-faced, worse-bodied, shapeless everywhere."

We may now investigate the causes of cretinism. Some have attributed its origin to goitre; but this opinion has been proved groundless, as, in many regions where almost every person is goitrous, cretins have been found to be entirely free from it. Others again have ascribed it to the use of snow water, and water impregnated with calcareous earth. These opinions are also without foundation. We know that persons born near the glaciers drink no other water than that obtained by the melting of ice and snow, and they are rarely, if ever, subject to the disease. Again, the common water of Switzerland is not impregnated with calcareous substances, but surpasses almost all other water in purity and flavor. By others it has been assigned to an impure and humid atmosphere. This belief was originated by M. de Saussure. He affirmed that water was by no means one of the causes of the disease, but that it ought to be attributed almost entirely to the heated and corrupted air, which the inhabitants of the valleys are compelled to breathe. Dr. Blackie, in his "Treatise on Cretinism," says that Dr. Morel, physician to the Hospital of Mauville, considers cretinism to be caused by the reception of a deleterious miasma into the constitution; and also believes that the absence of iodine in the water may be conducive to it, as in his analysis of the waters in cretinous countries, he found carbonate of lime, chloride of lime, silica, potash, nitrate of ammonia, sulphate of lime, magnesia, and other matters, but never iodine. This disease arises from a multiplicity of causes, and cannot, therefore, be attributed to any single one. It is never found in the higher villages, those situated about three or four hundred feet above the level of the sea. It is only upon descending that cretins are found, and upon reaching the plains they disappear altogether. Many of the streams which traverse the minor valleys flow into the Rhone, and in their downward course often leave behind matters which distribute a pestilential air through the country; this, together with the fact that in these villages cretins are exposed for four months of the year to the rays of a scorching sun, and of their being an excessively indolent and immoral people, has given rise to the supposition of M. de Rambuteau. He observes, moreover, that the disease is not hereditary; for strangers coming to reside in an infected locality, are as subject to it as are the indigenous inhabitants.

Let us, finally, take a slight survey of the mode of treatment used by Dr. Guggenbühl on the Abendberg. Dr. Twining observed that it consists in improving the bodily health by air, exercise, diet, frictions, baths, and medicine, and subsequently rousing the inert senses by a steady course of instruction. The bodily health is first attended to; and by the aid of the fresh mountain air, cold baths, and proper food, many children, who, upon their entrance into the institution, could not hold up their heads or move their limbs, have been enabled to walk steadily and exert their muscles. When the health is sufficiently improved, education is attended to. Ear-trumpets are used to awaken the sense of hearing. The child is then taught to perform with its mouth, the motions required to express the sound impressed upon the mind. Letters carved in wood are then placed before them, and from these they gradually learn to form words. When other methods fail, letters are figured in phosphorus on the walls of a darkened room, and this plan has often proved effectual in impressing the letters indelibly upon their awakening minds. They are then taught to distinguish forms, colors, &c. Cretins are generally fond of music; and "hearing is exercised by means of bells, singing, and instrumental music." They afterwards learn to read and write; arithmetic being acquired by means of the counting-frame. After this has been attained, the girls are taught to sew, and the boys to garden.

Dr. Guggenbühl has conducted his establishment for fifteen years with the most happy results, and so well has his mode of treatment succeeded that one-third of the cretins who have resided in the hospital have been completely restored to mental and bodily activity.

The benevolent example set by Dr. Guggenbühl has stimulated many other noble-hearted men with the desire of founding similar institutions for the amelioration of cretins and idiots. A number have already been established in Austria, Prussia, Wurtemberg, Saxony, France, Bavaria, Baden, and Sardinia; and in England and Scotland there are several hospitals for idiots.

Fortunately this dreadful malady does not exist in the United States, except in the most limited degree, and in localities corresponding in climatic condition with the cretinous regions of the Old World. In New England many idiots are found; and at Barre, Massachusetts, is an admirable institution for their treatment, under the superintendence of the distinguished philanthropist, Dr. Howe, formerly of Boston.

In taking leave of this subject, we return our cordial acknowledgments to Dr. Blackie for the pleasure we have derived from the perusal of his excellent monograph. It is alike creditable to his talents, and to the University of which he is a graduate. We hope that it is only a prelude to other and more elaborate emanations from his able and graceful pen.

ART. IV.—*The Transactions of the American Medical Association.* Instituted 1847. Vol. IX. Philadelphia: Printed for the Association, by T. K. & P. G. Collins. 1856. 907 pages.

The first characteristic, apart from the comely style of paper and printing, which attracts our attention in the new volume of Transactions is its increased thickness. It numbers nearly a hundred and fifty pages more than its predecessor of last year, and contains over a hundred and fifty pages more of strictly scientific matter.

Whether this rapidly growing bulk be a subject of congratulation to the members generally must depend, as usual, upon the nature of the contents, which it is our task to analyze. With the prospect of such an undertaking, spread out in its colossal length and breadth before us, we can scarcely be regarded as unbiassed in our judgment on the question, and we shall therefore leave it as an open one, at least until our present duty is discharged.

The admirable address of the President, Professor George B. Wood, which occupies the first place in the regular *transactions*, is already before the profession. It has been widely read, and, we doubt not, correspondingly enjoyed and appreciated; and needs no additional discussion at our hands.

First among the reports appears the second part of Dr. Frank H. Hamilton's valuable papers on "Deformities after Fractures." This is considerably the longest article in the volume. We regard it as one of the most useful, and hence, most honorable to the Association. In the preparation of these two essays on a very important practical subject of inquiry, Dr. Hamilton has set an example which we hope may be often followed by the working members of the Association in relation to other no less important and still quite unsettled practical questions. As the investigations of Dr. Hamilton have grown into a "Treatise on Fractures and Dislocations," which the author is allowed to publish separately, after the completion of the report to the Association, we shall submit a very condensed outline of the portion now before us.

This begins with Chapter IV, an exceedingly interesting one, on Fractures of the Scapula; and considers, in successive chapters, fractures of the humerus, of the radius, of the carpus, of the metacarpal bones, and of the digital phalanges. We have been so much attracted by the details, and by the well-considered, yet always modestly-expressed, deductions of the indefatigable author, as to be unfitted for the work of rendering a connected abstract of his communication *in extenso.* The temptation is urgent to quote freely from the different chapters, but we must confine ourselves chiefly to figures and enumerations.

Three cases are narrated, and thirteen cabinet specimens described, of different fractures of the scapula. In relation to these fractures the views are cited of numerous authorities, among which we may name most of the leading surgical writers, past and present, as well as many of inferior note. Fracture separating the glenoid cavity from the body of the scapula is declared to be very rare, almost impossible. Fracture of the acromion process, also, is shown to be more rare than it was supposed to be; non-osseous union of the epiphysis being the real nature of the lesion which has been mistaken for a genuine fracture.

Sixty-seven cases are presented of fractures of the humerus, and nine different specimens are carefully described. These cases are also given in a table, from which it appears that there were of the upper third, 13; of the middle third, only 10; and of the lower third, 44: this result being at variance with the experience of Amesbury, Lizars, Bransby Cooper, and others, according to whom the fracture most frequently involves the middle third. A passage in this chapter has tempted us to quote it, on account of the important warning it conveys.

> "Perhaps no place will be more appropriate than this to speak of the difficulty of diagnosis in fractures about the joints, and especially in fractures occurring in the vicinity of the shoulder-joint: a difficulty so serious as materially to embarrass the surgeon in his prognosis; and which, it must certainly not be denied, diminishes the value of my own conclusions, as based upon my recorded cases. It is only, after all, by an examination of a great number of cases, both before and after death, that we shall ever arrive at a complete solution of these difficult questions. To this point already the labors of Sir Astley Cooper, R. Smith, Key, and others, have been especially directed; yet the constant mistakes committed to-day by the most experienced surgeons, not to speak of those acknowledged by Sir Astley himself, testify to the imperfection of our knowledge." P. 129.

Professor Hamilton prefers in the treatment of fractures of the humerus "a broad and thick splint of gutta percha, sufficiently long to extend from the neck to the wrist, moulded accurately, and applied to the shoulder, arm, and forearm, while the limb is flexed to a right angle, and while extension is being made upon the humerus. This being properly padded and secured in place by rollers, I place the arm in a sling beside the body. The sling must, however, be so arranged by being looped under the wrist, and not under the elbow, as that the weight of the elbow and lower part of the arm may aid in making extension." P. 136.

Thirty-eight original cases and three cabinet specimens are given, with a table, in the chapter on fractures of the radius. Of the cases of fractured radius reported, three were supposed to be of the neck of the bone, but not insisted on, owing to the admitted difficulty of the diagnosis and the rareness of such cases; two were of the middle third; thirty-three were of the lower third, twenty-six of these last being "Colles' fracture." "Barton's fracture" does not appear in the list, as the author has never met with one, either in practice or in cabinet preparations, and, consequently, regards it as an extremely rare form of fracture.

The deformities which may occur in fractures of this bone are fully and thoroughly discussed, and very forcibly as well as usefully pointed out. The treatment of fractures involving the lower end of the radius, necessarily receives a large share of attention. The various modifications and applications of the "adduction" method, and the uses and properties of the pistol-shaped splint of Cline and Dupuytren, and their successors, down to R. Smith, Nelaton, Bond and others, are carefully considered. He recommends the splint of Bond, or an improvement of it by Dr. E. P. Smith, of Buffalo; but in his own practice habitually employs a simpler form (described on p. 176), which closely resembles the extemporaneous contrivance of Dr. Hays, although somewhat neater and more permanent.

Fractures of the ulna are typified in twenty-two cases and one cabinet specimen, and the usual tables. Of these fractures, eleven were in the upper third; five in the middle, and six in the lower third. Forty cases are recorded and tabulated of fractures of both radius and ulna, of which one occurred through the upper third, fourteen through the middle, and twenty-five through the lower.

The danger of mortification, more frequent in these fractures than in others, is well described, and the idea suggested that it may not be invariably due to mismanagement of the surgeon. The use and disuse of inner bandages, graduated compresses, narrow and yielding splints, in contradistinction to the employment of outside bandages only, with broad padded splints of wood or other firm material, instead of pasteboard, are instructively discussed. Of the different positions of the forearm, the supine, which is advocated by Lonsdale, South, Nelaton and others, is adopted by the reporter.

No cases are reported of fractured carpus. Of metacarpal fractures there are seven cases, one being of the thumb, two of the forefinger, and four of the little finger. Finally, we have fifteen cases of fractures of the phalanges. In conclusion, it should be stated that the report is conveniently illustrated by four lithographic plates, in which specimens and apparatus are very distinctly represented.

The second article is a very important and deeply interesting report by the Committee on Hydrophobia, of which Dr. Blatchford, of New York, was chairman. It presents a statistical table, compiled from various sources, of one hundred and six cases recorded as hydrophobia occurring in the United States.

Of these, seventy-two terminated fatally. In eighty-nine the attack followed the bite of a dog; in nine, that of a cat; in one, of a raccoon; and in one, of a fox. According to records in England, France and the United States, of two hundred and fifty cases, the greatest number, seventy-eight, were inoculated in the spring months; sixty-five in December, January and February; fifty-nine in summer, and forty-eight in autumn.

Forty-one of the cases are new, having never been upon record before; and these are given, mostly, in full detail. The average period of incubation in eighty-nine cases, was seventy days; the average duration of the fatal cases was three days.

Several exceedingly interesting facts are given in regard to the history of the disease. It is proved to be of comparatively frequent occurrence in France and Northern Europe, as well as in the United States, but rare in tropical climates. So little difference in the number of cases has been observed at different times of the year, that the committee conclude thermal influence to have no relation to its causation. This is, perhaps, the most important conclusion of the report. "Every investigation," say they (p. 250), "anywhere made, only proves that a belief in the influence of the 'dog star,' or climate or season of the year, as inducing or favoring the production of rabies, is an utter fallacy." Hence they stigmatize laws based upon such an hypothesis as "not only absurd, and their execution expensive and cruel, but positively injurious to the community," by creating a false security during the other seasons of the year.

Examining the hypotheses upon the etiology of the disorder, it is said (p. 240), "that putrid meat, or want of food and drink, never generates the disease in the dog, has been satisfactorily proved by experiment." It has, in fact, never been shown to have occurred directly from any cause but the *bite of a rabid or enraged animal.* All the animals susceptible to the disease are similar in the possession of teeth fitted for seizing and tearing their prey; they are all carnivorous, and "it is probable," say the committee, "that their peculiar liability to rabies consists in a *constitutional irascibility.*" Dogs fed on vegetable food, it would seem from the experience of the West India Islands, hardly ever become mad. After pointing out the resemblance between the manifestations of ordinary rage, and those of the disease, the committee say in conclusion (p. 243), "If, then, an enraged dog exhibits so many of the symptoms of rabies, especially the viscid frothy saliva so characteristic of the disease, and which all admit contains the virus, it is reasonable to conclude that the functional condition of the organs implicated in the disease, the very organs in which it is supposed the virus is generated, is in both cases very similar, and, therefore, capable of generating the virus. That the bite of such an animal should be followed by rabies is a most rational conclusion, and if such be the case, it is probably the *only* way the disease ever originated." In support of this conclusion the committee refer to several of their cases, and cite various authorities.

The manner in which this singular virus operates is left in mystery. The fact, however, that "the disease has been prevented by excision of the cicatrice after it had become painful, swollen, and discolored, a group of symptoms known by the term 'recrudescence,' and always followed by the disease under any other treatment, is positive proof that the virus is not directly absorbed into the system." On this account a number of very high authorities advise and urge the excision of the bitten parts, "*at any time before* the occurrence of the second inflammation," as an almost or quite certain prevention of hydrophobia. Among these is Mr. D. Blane, of London, who, upon the basis of long observation, asserts (p. 246), "that it is of no consequence that the excision of the part should be immediately effected;" but, as secondary inflammation may come on at any time, he advises to have it done as soon as convenient. This opinion is certainly momentous, if justified, as it appears to be, by many data brought forward by the committee. Although still in a great measure speculative upon all decisive points, and inconveniently diffuse in style, this report does great credit to the ability and untiring industry of the committee. It is full of interesting and curious information, as well practical as theoretical, and will repay an attentive perusal.

The report on Hydrophobia is followed by two papers in succession, each of which may be regarded in different quarters, as advocating views and tendencies of much greater moment than the study of the disorder which had just been honored with so large a portion of the volume. They have already attracted towards their several propositions an amount of attention which is not likely to flag, now that the whole debate is published in its official form. They are both able and earnest arguments on vitally important questions; and as such are entitled to the careful examination of every member of our profession. As, however, their adequate discussion would involve more space than can be allowed us, we prefer commending them at length to the especial attention of our readers, to any attempt at analytical *exposé* of their pith and purpose merely.

The first in order is the Report of Dr. S. D. Gross on the "Causes which Impede the Progress of American Medical Literature;" the second is the regular Report of the Committee on Medical Literature, by their chairman, Dr. R. J. Breckinridge, of Louisville, Kentucky.

The essential part of the Report on Plans of Organization for State and County Medical Societies (which follows next, and of which the chairman was Dr. A. B. Palmer, of Detroit, Michigan), is contained in the following extract from a series of resolutions proposed at its close:

> "2. *Resolved*, That this Association earnestly recommend to all County Medical Societies to incorporate into their constitutions or by-laws, provisions for the election of a Board of Censors, whose duty it shall be to examine all persons who may apply for admission into the office of any member of the society as students of medicine; and also to incorporate provisions to prevent any member of such society from admitting, as a student, any person who shall not first receive from the Board of Censors a certificate of a good moral and intellectual character, a good English education, including a thorough knowledge of the English language, and a respectable acquaintance with its literature, and with the art of composition, a fair knowledge of the natural sciences, and, at least, the more elementary mathematics, including the chief elements of algebra and geometry, and such a knowledge of the ancient languages as will enable him to read current prescriptions, and appreciate the technical language of the natural sciences and of medicine.
>
> "3. *Resolved*, That this Association also earnestly recommend to local or County Societies to incorporate into their constitutions or by-laws provisions for making it the duty of each of their members to keep at least a brief record of all cases occurring in his practice, depending upon endemic or general causes, and report at least annually to a committee of the society to which he belongs, the number or percentage of different diseases occurring during each month, together with the particular type of each disease, the chief modifying circumstances under which it occurred, the general plan of treatment, and the results of the cases; and also that these societies make provision for the election of such committee, whose duty it shall be to receive and collate such reports, arranging them in due form, and adding such remarks as may assist to their proper understanding, and to transmit them annually, thus analyzed, to a committee of the State Society to which the local or County Society shall be auxiliary; and this Association further recommends that the State Societies make provision in their constitutions or by-laws for the appointment of a committee, whose duty it shall be to receive such reports from the local or County Societies to again arrange them with other reports from similar societies, placing them in a condensed or tabulated form, and report them annually, with proper remarks, to a committee of this Association, to which the State Societies are recommended to become auxiliary." Pp. 409, 410.

The report closes with a plan of constitution for State Societies.

The report by Dr. N. S. Davis, of Chicago, which follows the above, "On the Changes in the Composition and Properties of the Milk of the Human Female, produced by Menstruation and Pregnancy," details the results of the microscopic and chemical examination of the milk of three healthy women during the three periods of simple lactation, lactation with pregnancy, and lactation with menstruation.

It is inferred, so far as may be from these limited observations, that:

> "1st. The occurrence of pregnancy during lactation produces very marked diminution of all the solid or nutritive constituents of the milk, such diminution continuing to increase as the pregnancy advances.
>
> "2d. In examining the separate proximate constituents, it will be observed that a much greater relative diminution takes place in the casein, the butter or oil, and the salts, than in the sugar and extractive matter.
>
> "3d. There appears to be added to the milk secreted during the progress of utero-gestation some of the *granular* bodies or colostrum corpuscles, and numerous infusoria or animalcular germs, which have been very rarely found in healthy milk.
>
> "4th. Changes the same in kind take place in the milk secreted after the establishment of regular menstruation, but much less in degree; and the relative diminution of the several constituents is uniform." Pp. 424, 425.

After some remarks upon the changes in the qualities of the milk, as inferred partly from the ascertained changes in its composition, and partly from direct observation of its effect upon the nursing infant, the reporter terminates his paper for the present by reminding the Association that these investigations "require much time and labor, though the results may be stated in a few words or figures." "The important practical bearing," he further says, "of the results obtained, thus far, will be obvious to every intelligent physician. But the examinations and analyses, microscopic and chemical, should be multiplied until they are sufficient to render all conclusions drawn from them demonstrated truths."

JAN 2 1902
LIBRARY

The Committee "On the Sanitary Police of Cities" (Dr. J. M. Newman, of Buffalo, Chairman), observes that, "in view of what has already been accomplished by previous committees, the range of subjects treated in this report will necessarily be much more circumscribed than would otherwise be proper with a subject so broad."

Emphasis is laid in the report upon the predominance of *preventable* disease, especially in cities; which, as they have oftentimes been called plague-spots in morals and politics, so are they often plague-spots of a verity, and the most favorite haunts for the ravages of epidemics.

Interesting and important tables are given (pp. 434, 435) of the rates of *deaths* to *population*, in New York, Philadelphia, Boston, Providence, Baltimore, Charleston, Chicago, and New Orleans, for which we must recommend the report to the attention of our readers. A statement is given, also, of the proportion of deaths from "zymotics" in the United States at large, and in various special localities; varying from 20 to over 50 per cent. of the whole number of deaths. In the class of zymotics are named cholera, cholera infantum, croup, diarrhœa, dysentery, erysipelas, intermittent and remittent fevers, typhus, hooping-cough, influenza, measles, scarlatina, small-pox, syphilis, thrush, cholera morbus, typhoid fever, and yellow fever. *Puerperal fever*, which might have been added with propriety, is not named.

In regard to cholera, "emphatically an epidemic of cities," it is remarked that "there is an absence of a continuous, systematic course of remedial measures calculated to remove at all times the fruitful soil in which the pestilence finds root, and developes itself into a full harvest." "We should remember that the circle of its influence may radiate far from the centre of its birth." In the mortality statistics of the census of 1850, we find that the total number of deaths by "*fever*" of all varieties was 33,344; a greater number than by cholera, although that disease also was epidemic.

Upon the subject of "water supply," the committee remarks: "So long as the matter of supplying our towns with water is left in the hands of companies, or individuals, just so long will the evils resulting from an insufficient supply of this element be only partially remedied; the sources of disease, and the class of persons most in need, will never be reached." "This principle should be recognized, and no town or city should hereafter permit this right to pass from their control. The municipal corporation should rightfully be the means of dispensing health and happiness among the citizens, without the debasing question of profit, entering into every consideration."

Upon the subject of *Ventilation*, in dwellings and public edifices, a similar suggestion is made: "*that the evils are to be corrected, and to be corrected alone, by the strong arm of the law.*" "We want a *strong municipal law*, which shall plainly and distinctly say, in what manner our edifices shall be built," &c. &c. (P. 453.) "We have an approach to such a law, in the authority vested in our Boards of Health, to enter, in times of epidemics, and thin out an over-populated house. But, as prevention is better than cure, the evil should be prevented, not simply corrected."

As to *Sewerage*,—"the superintendence of the construction of all sewers, lateral as well as main, should be, it is urged, "*confided to the charge of the health officers of the town.*"

Attention is called particularly, to the subject of the influence exerted upon the health of a city, by the upturning and removal of the natural soil, especially in times of epidemics. The evidence of Dr. Barton, in regard to yellow fever, in New Orleans; of Dr. Hamilton, as to the outbreak of cholera, in Buffalo, in 1852, and of Dr. Newman himself, in regard to a similar epidemic, at Niagara, in 1854, is adduced. It is inferred, that "the emanations of such exposures undoubtedly have the property, under the influence of heat and a humid atmosphere, of giving the most fatal intensity to that form of disease, which may be determined by the epidemic constitution of the year."

Compulsory Vaccination, to insure that of the whole population, is recommended as the only effectual security against the ravages of small-pox.

In conclusion, the chairman boldly contends, "that to the physician belong the posts of honor and of profit conferred by the constitution of any sanitary commission, board of health, or any other office which is designed to devise and execute hygienic laws." "Let men be selected from the ranks of the profession for these posts, who will bring to the exercise of their duties a laudable professional ambition, and work from a love for their labor, and be actuated by the true spirit of the sanitary physician."

In Dr. A. J. Fuller's report *On the Treatment of Cholera Infantum*, we have an unpretending sketch of the pathology of the disease, followed by a succinct account of its treatment, upon principles recognized by most practitioners. There is little novelty in this paper, which is clearly written, and with a judicious brevity.

Dr. Horace Green has contributed a report on the *Use and Effect of Applications of Nitrate of Silver to the Throat, either in Local or General Disease.* The opening remarks exhibit the tendency of the paper, as follows:

> "Many years ago the celebrated Abernethy published to the world his treatise 'On the Constitutional Origin of Local Diseases.' His views have been pronounced enlightened and philosophical; and perhaps justly so. Certainly they were eminently suggestive, for they contributed more than those of any other writer of that period, to awaken among both surgeons and physicians a spirit of enlightened inquiry with regard to primary diseased action.
>
> "But the great work needed now more than any other, by both branches of the profession, and which might be termed, perhaps, the converse of that of Mr. Abernethy, is one which would embrace a full, enlightened, and philosophical history of the *Local Origin of Constitutional Diseases.* Until this neglected portion of the history of Medicine shall have been written by some second Abernethy, thoroughly enlightened and imbued with the vast importance of his subject, the value of topical medication, its effects and utility, cannot be fully appreciated by the profession."

Allusion is made to several monographs, in which the topical use of nitrate of silver is mentioned; as that of Dr. Mackness, of London, Dr. Hastings, Dr. Scott Alison, and Dr. Eben Watson, of Glasgow. Two other British writers are asserted to have borrowed largely, without acknowledgment, from Dr. Green's own work on the Diseases of the Air-Passages, published in 1846.

Different opinions are entertained upon the *rationale* of the "argentine" topical medication. Dr. Watson believes the nitrate of silver to be a local stimulant, and therefore useful only in a subacute or chronic inflammation.

Dr. Bennett, of Edinburgh, on the other hand, believes its action to be that of a "calmative or sedative." Dr. Scott Alison considers it to be an irritant to an acutely inflamed part, but, to one chronically inflamed, a beneficial tonic and stimulant. Others view its action as essentially protective, by the white coating produced by the application.

Remarks are made by the reporter upon the "effect of nitrate of silver in the treatment of follicular pharyngo-laryngeal disease;" in "acute and chronic laryngitis;" in "membranous croup;" in "œdema of the glottis;" in "hooping-cough;" in "spasmodic asthma;" and in "tuberculosis, following or complicated with bronchial inflammation."

The application of the sponge to the mucous membrane of the larynx, at least, is of course insisted on in these affections. A very interesting *resumé* is afforded upon the subject, in a manner less controversial than might have been anticipated from the position of the author in regard to it.

In membranous croup, Dr. Watson considers that it is the *pre-exudative* stage to which this local treatment is applicable. Others, especially in this country, have had very good success with it in later stages. Dr. Ware, of Boston, is quoted among these.

The first application of solutions of nitrate of silver to the air-passages in *hooping-cough*, is credited to Dr. Watson, of Glasgow; suggested, however, by the work of Dr. Green. In 167 cases of this disease, under the care of Dr. Watson and M. Joubert, 96 cases, more than half, were cured in two weeks; 61 cases in three or four weeks; 9 resisted the treatment, and 1 died. Under more ordinary treatment, the average duration, according to Williams, Copland, Walshe, West, and others, is from one and a half to three and a half months.

In spasmodic asthma, the treatment is urged on the ground of a somewhat peculiar view of its pathology. "The state of the larynx," says Dr. Watson, "in spasmodic asthma, has not hitherto received adequate attention, either from pathologists or physicians; in this opinion he expresses himself fully confirmed, that morbid contraction of the larynx is a frequent cause of the disease, and that a spasm of the glottis dependent upon a lesion of this organ, constitutes an essential part of a fit of asthma."

Where tubercular disease of the lungs is threatened or suspected, several authorities recommend the topical medication; for instance, it is adopted by Dr. Hastings (Treatise on Diseases of the Larynx and Trachea), Professor Watson, Dr. Cotton, Professor R. B. Todd, of King's College Hospital, and Professor Bennett, of Edinburgh.

The report of Dr. Green closes with a brief allusion to what he believes to be the successful and beneficial employment of "*catheterism* of the air-passages, or the injection of a solution of the nitrate of silver into the bronchial divisions,"—in one hundred cases of thoracic disease, of which, seventy-one are recorded as tubercular.

The report terminates with a reiteration of its author's well-known predilection for "this method of treating disease," whether in "bronchial affections" or in commencing tuberculosis.

Next follows the report, by Joshua B. Flint, M.D., "On the Best Mode of rendering the Patronage of the National Government tributary to the Honor and Improvement of the Profession." It commences with an eloquent protest against the "gross disregard of the honor and rightful prerogatives of the medical profession, in the practice of issuing patents to the proprietors of quack medicines." We cannot do justice to this part of the paper by an abstract. "It is gratifying to learn, however, by a letter from the Commissioner, that the practice of the office has been such, of late years, as to discourage this objectionable employment of its powers."

The absence of appropriations by Government to encourage or assist medical science in this country, is alluded to, and made the occasion of an "episode" upon medical literature in general, and the "American Medical Society in Paris" in particular.

The subject of the solicited pecuniary grant to Dr. Morton, for the origination of Etherization, is discussed, with little or no regret that it was not awarded.

The national debt of gratitude, it is contended, to the profession, might be best expressed by laying *upon the altar of the American Medical Association*, an appropriate tribute of acknowledgment. For annual prizes, and for the promotion of statistical and scientific inquiries, a considerable sum might be thus advantageously employed, which would never be missed from the public treasury. Analogous examples of such patronage are cited, as in the cases of Espy, Morse, and the heirs of Robert Fulton.

Further remarks are made upon the more direct relation of the Government to such members of the profession as are eligible to appointments connected with its official service; as in the army and navy. A degree of illiberality is here still a subject of complaint.

The Report on Medical Education, by W. H. Anderson, M.D., contains, with the oft-repeated, but no less correct sentiments, upon that subject, briefly and clearly expressed, at least one novel suggestion,—that "the courses of lectures attended by the student, should be left to the close of his term of study; and, that to facilitate his earlier progress, besides thorough office instruction, another book is needed: a book which will contain, in one, or at most, two volumes, dissertations on the various subjects which enter into the course of medicine."

There may be, we suspect, in the profession, very different opinions in regard to the desirableness of such a work.

A report "in part," on the "Medical Topography of the Eastern Shore of Maryland," is given by Dr. D. P. Wroth. It contains much interesting information, in respect to a long-settled and important region.

The "History of the Epidemic of Yellow Fever, in Charleston, S. C., in 1854," is furnished in an excellent paper, by Dr. D. J. Cain, who argues decidedly in favor of the *importation* and *contagiousness* of the disease.

Dr. Turner, of New Orleans, in his "Report on the Epidemics of Louisiana, Mississippi, Arkansas, and Texas," urges the view that yellow fever originates spontaneously, in New Orleans at least, not being, generally, "infectious;" but that, *under favorable circumstances*, it may be transported from one place to another, and even become communicable from person to person. This is the doctrine of contingent contagion.

So far as concerns the local origin of this disease in New Orleans, the documents connected with this report, as well as its own facts, and those of the well-known report of Dr. E. H. Barton, "On the Meteorology, Mortality, and Sanitary Condition of New Orleans, for 1854 and 1855," make an exceedingly strong case. The last-mentioned paper is of especial value in this regard, from its fulness of detail, and carefulness of preparation; and from its numerous and striking illustrations by diagrams and tables. Between these reports is placed a short, but interesting account, from personal observation, by Dr. Fenner, of the Epidemic of Yellow Fever at Norfolk and Portsmouth, Virginia, in 1855.

A brief paper follows, upon the physiological effects and chemical detection of Strychnia, by Lewis H. Steiner, M.D., of Baltimore. This is succeeded by one of still less length, by Dr. G. S. Palmer, entitled "A Partial Report upon a Uniform System of Registration of Births, Marriages, and Deaths, and the Causes of Death."

The Prize Essay for the year, by Dr. Henry Hartshorne, of Philadelphia, is a paper of about sixty pages, "On the Arterial Circulation; its Physiology, and Chief Pathological Relations." Although a proper effort to maintain impartiality is manifested, the opinions of the author are obviously decided; and appear to be opposed to those of a majority of modern writers upon the subject. The boldness of this difference is entitled to respect, although it may be viewed as temerity, or otherwise, according to the estimate placed by different readers upon the force of the reasons adduced for it.

The argument is chiefly drawn from 1. Histological induction, in regard to the probable nature of the activity of the arterial muscular coat; 2. Analogy, from comparison of the circulation of other animals, of different types; 3. Observation of accidental and pathological deviations.

The histological and analogical reasoning of the essay may be summed up in the following passages:

> "Wherever it has been possible fully to study muscular action, the best of authorities agree in finding *no instance of active dilatation*, or *dynamic elongation of muscular fibre.* Hence, to suppose such a phenomenon in the *vascular system*, which, more than almost any other, exhibits facts only under the greatest obscurity and difficulty of interpretation, is to suppose what is *unphilosophical;* and, therefore, must be considered untenable or untrue."
>
> "It may, very probably, be true, that in the simplest animals, as the protozoa, radiata, and lower mollusca, there may be no other determining cause for the slight variations which occur, than such as exist in plants, aided by the general animal contractility. But, when specialization begins, we find it at first shown in the creation of additional contractile vessels, which, as they differ in magnitude, number, and force, must vary the supply of fluid which they afford. And, when the specialization approaches its highest point, the irritability of vascular trunks is no longer entirely controlled by their direct stimuli, but is confided, to some extent, to a nervous apparatus; as is the case with all the muscles of the organic, hardly less than of the voluntary system."

The experiments of the Webers and others, are believed, by the essayist, to have been made too hastily the basis of the opinion, that the arteries contract only with a tonic rigidity, and not with an alternating or quick peristaltic movement. Those experiments are viewed by him as *pathological* only, not physiological, in their results.

The subjects of Inflammation, Asphyxia, and Fever, are touched upon, so far as concerns their bearings upon the circulation of the blood. Inflammation is defined as "*a local lesion of nutrition, with concentric vascular excitement, resulting in exudation.*" Asphyxia is treated of in harmony with the view of Bichat, that oxygen is the normal excitant of the respiratory act, as well as of the pulmonary circulation; the adverse of the opinion suggested by the experiments and observations of Brown-Sequard. A brief discussion occurs of the recent ratiocinations and observations upon the subject of Fever, by Dr. H. T. Campbell, Virchow, Vogel, and E. Parkes; with the expression of the opinion that the condition of the bloodvessels must not be overlooked in the attempt to solve the difficult problem.

Lastly, a very careful examination is entered into of the principal theories of the Pulse, as held by Hunter, Sir C. Bell, Bichat, Young, Parry, Colt, and Arnott.

The general tenor of the argument of the essay (which has evidently been elaborated with great care), is stated in the following *resumé:*

> "We conclude, as the summary result of the foregoing investigation—based, as we have seen, upon the combined facts of histology, analogy, experiment, and pathology,—that the most probable opinion or theory is (in opposition to most modern authorities, but in accordance with the views of Hunter and Sir Charles Bell, and partially with those of Carpenter), that, as all the arteries have a mus-

cular coat, this is endowed, like the other muscular tissues of hollow viscera, with a power of alternating contraction and relaxation; that this contraction is exerted in immediate connection with, and successive upon, the beat of the heart; *the arterial systole thus combining with that of the ventricles to make up the pulse:* that the variation occurring in different parts of the circulation is to be accounted for to a considerable extent, although not entirely (a capillary power or nutritive affinity being also acknowledged), by the different degrees or kinds of *action* of the arteries; that the normal modes of stimulation by which these vessels are affected, are chiefly three: 1. That of *distension*, from the impulse of the heart; 2. The stimulus of *oxygen*, in the red corpuscles of the blood, by which all muscles are maintained in activity; and 3. The direct (*and reflex*) influence of the *nervous system*, by means of the arterial or vaso-motor nerves; lastly, it is by the sympathetic system that the principal control is maintained over the arteries, as well as over the heart; while they are subjected also to influences directly transferred or reflected from the cerebro-spinal axis, and to some which result from contact with the external world." P. 836.

In the statement, at the end of the volume, of the "Resolutions adopted at the Meeting at Detroit," an inadvertence appears to have occurred. The Resolution of Dr. Leidy, in regard to the future limitation of the award of prizes to essays of *original observation*, is there placed as having been adopted; whereas, according to the printed minutes, it was not adopted, but was referred to a committee (Drs. Leidy, Wood, and Meigs), to report upon next year.

The style of this volume of the Transactions certainly does great credit to the printers, as well as to the Committee of Publication. To our eye, ponderous though it be, they have succeeded in making it a handsomer volume than any one of its predecessors.

ART. V.—*New Elements of Operative Surgery.* By ALF. A. L. M. VELPEAU. Fourth edition, with additions, by GEORGE C. BLACKMAN, M.D., Professor of Surgery in the Medical College of Ohio, &c. &c. New York. S. S. & W. Wood. 1856.

IF there is anything in a book which we dislike more than another it is a long title-page. For this reason, we refrain from copying that of Mons. Velpeau's treatise; which, with the names and appendages of the author, translator, annotator, and editor, exhibits a most formidable array, and is almost long enough to reach, in a straight line, from our sanctum to the Rocky Mountains. We learn from this cumbersome page that the present is the fourth American edition, the first having been issued in 1844; a circumstance showing a just appreciation, on the part of the profession, of the value of this great work. We are, however, not quite sure that this edition is, legitimately, anything more than the second; for we are strongly inclined to believe, from a careful examination of the first three issues, that they were precisely identical, in matter, paper, and typography, or, what is the same thing, that they all wore precisely the same features, and the same dress. The truth is, the work was—what a scientific work never should be—originally stereotyped, and hence, as one imprint, probably not a large one, became exhausted, another was immediately issued in the same manner, without a jot or tittle of alteration, amendment, or improvement. We do not complain of such a proceeding; it may be all right, morally and scientifically considered; still it does not, we confess, strike us in this light, but rather as a *trick*, designed to create the impression that a work so treated, enjoys an immense degree of popularity, when, in fact, the very reverse may be true. We might refer, if we felt so inclined, to an instance where a work of very questionable popularity, published not a thousand miles off, has, in less than three years, been thus passed through four editions, not one of which, probably, exceeded two hundred and fifty copies. Now, when a work *behaves* in this way, it sails under false colors, and is unworthy of the society of respectable books. A publisher, finding that he has made a bad bargain, might possibly be excusable for playing such a game, but no author, who has any pretensions to morality, should be guilty of any connivance of the kind. The former has purchased the work as a commercial speculation, and it is his duty to make as much capital out of it as he can. But it is very different with an author. If his work is a failure, he loses only his time, and ought to be satisfied that he fares no worse. If his work is stereotyped, it is easy enough for him to strike off, every few months, a hundred or two hundred copies, and to palm them off upon the profession as a new edition; and, consequently, as an evidence of the rapid sale, and great popularity of his production. All medical works, published in this country, whether systems or monographs, have an average edition of from twelve hundred to two thousand copies; and hence the publisher has always reason to congratulate himself, if he can dispose of it, in two or three years from the time it leaves the press. There may, occasionally, be an exception; but this only proves the rule, and we are quite sure that this was not the case in the instance we have now in our eye, and which has elicited these remarks. We hope, for the sake of the fair fame of our medical literature, that such a practice may never be repeated. *Verbum sat.*

The treatise of Mons. Velpeau needs no commendation from us. It will always be able to speak for itself. As a work of learning, it is without a rival in any language. The only approach to it, is the Treatise on Operative Surgery of Ernst Blasius, the distinguished Professor of Halle; a second edition of which was published in 1840. It was rather unfortunate that Velpeau's work fell into the hands of Dr. Townsend, who, as a translator, has certainly not done it justice. We do not think that we have ever seen a worse specimen of "French done into English," in any department of science or literature; and yet we would not speak irreverently of a man who has performed so great a service for his profession.

Dr. Townsend had the merit of an honest, if not a successful versionist; he had a great affection for his author, and his zeal to interpret him correctly is apparent in every line and paragraph of his translation. But he, nevertheless, often failed, chiefly because he had an imperfect knowledge of the French language, and an inadequate idea of the past and present state of operative surgery. His expressions are frequently most ludicrous; and his style rarely displays any of the graces of correct scholarship. He often retains French words and phrases whose meaning and import are at once palpable to the humblest intellect. It would have been well if the present editor could have revised Dr. Townsend's literary labors; but we can readily imagine that this would have been a task little short of that incident to supplying an entirely new translation. As a literary performance, therefore, nothing can be said in favor of the American edition of the work. The bad English which pervades the translation is equally conspicuous in the contributions of Dr. Mott. They all bear intrinsic evidence of hasty composition, circumlocution, inelegance, and even wretched grammar. The matter, fortunately, is good, but it is frequently so much buried in verbiage as to render it difficult of access. Besides, it is often very defective in its arrangement and collocation. Dr. Mott was evidently never intended for a great writer; and perhaps it was well that nature withheld from him so rare a gift, otherwise he might have been too vain of his accomplishments. Bonaparte wrote bad French, but he was a great chieftain, an acute statesman, and a most sagacious legislator. If Dr. Mott is not a great scholar, he is a great surgeon, whose deeds will convey his name securely down to the remotest ages of the world. God is chary of the favors he bestows upon mortals. He rarely concentrates in the same individual all the great qualities of human nature. John Hunter, with all his zeal, and his unrivalled powers as an interpreter of Nature's laws of healthy and diseased action, was a poor writer; so that now, after the lapse of nearly three-quarters of a century since his death, men experience much difficulty in unravelling the meaning of some of his harsh and ill-constructed sentences. But we are not on this account the less grateful for what this illustrious man has done for us, and for the same reason we should be thankful for the services of Dr. Townsend and Dr. Mott.

We regret that Dr. Mott's name has ever been associated with Velpeau's work. We are sure that it has never stood in need of his services. A plain, simple, faithful translation would have been quite sufficient to have secured for it a favorable reception from the profession of this country.

Velpeau needs no such endorsation, nor does Dr. Valentine Mott require such a parasitic connection to procure him readers of anything he may be inclined to publish. The Nestor of American surgery has reached his threescore years and ten, and it is therefore high time that he should furnish us, in a more enduring form than he has yet done, a record of his vast experience. A good book has said, whatever thou doest, do it quickly, and with all thy might; and we hope that Mons. Velpeau's annotator will profit by the injunction. He owes the profession a great original work on surgery.

We are gratified that the present edition has been brought out under the auspices of so able and distinguished a writer and surgeon as Dr. Blackman. We know of no gentleman in the profession in this country who would have executed the task with more success, in better taste, or in a more scholarly manner. Dr. Blackman wields a ready pen, and whatever he touches he adorns. His thorough acquaintance with operative surgery, his large personal experience in this branch of medicine, and his unwearied industry in the collection of facts, have admirably fitted him for bringing out an improved edition of this great work. His contributions comprise a large amount of matter in the form of notes, interpolations, and an appendix, affording thus a brief but accurate digest of the additions that have been made to operative surgery since the publication of the first edition, twelve years ago. Our only regret is that the matter in the appendix was not incorporated in the text, as this would have greatly facilitated reference. A good index is also still a desideratum, which we hope to see supplied in another edition.

ART. VI.—*Lectures on Materia Medica and Therapeutics.* By JOHN B. BECK, M.D., Professor of Materia Medica and Therapeutics. Prepared for the Press by C. R. GILMAN, M.D., Professor of Obstetrics, &c., in the College of Physicians and Surgeons, New York. New York, S. S. & W. Wood. 8vo. pp. 559. 1856.

THIS is the second edition of the posthumous work of the late lamented Dr. John B. Beck, one of three brothers who rendered signal service to the cause of medical science in the New World, as practitioners, writers, and teachers. It would be difficult to say which of them possessed the greatest talent, the most industry, or the greatest devotion to his profession. They were all men of the most excellent moral character, high-toned gentlemen, superior scholars, ready teachers, and accomplished writers. Dr. John B. Beck occupied for nearly a quarter of a century the chair of Materia Medica and Therapeutics in the College of Physicians and Surgeons of New York, where he died, in the winter of 1851, in the fifty-sixth year of his age, from protracted disease of the bowels. He became an author almost immediately after he entered the profession, his Inaugural Dissertation on Infanticide having been published in his brother's treatise on Medical Jurisprudence, where it afterwards held a conspicuous place. We do not know any other article upon the subject so replete with scientific and valuable matter; and there is none, we are sure, which has exercised such an authoritative influence in our courts of law. Subsequently, Dr. John B. Beck published a small volume of Medical Tracts, and, at a still later period, a short treatise on Infantile Therapeutics, one of the most valuable contributions of the kind of the present day. He also edited several editions, with important additions, of Murray's Materia Medica, and a few years before he died he published a concise History of Medicine during our colonial existence.

The present work, consisting of the lectures delivered by Dr. Beck in the New York College of Physicians and Surgeons, was first issued in 1851, under the supervision of his friend, Dr. Gilman, the distinguished Professor of Obstetrics in that Institution. The fact that a new edition has been called for in so short a time shows the estimation in which the work is held by the profession. As a text-book for the student during his attendance upon lectures, we believe that it has no superior in the English language. Written in a clear, terse, and concise style, it is replete with practical instruction and sound doctrine, from the study of which no one can rise without benefit. The editor has introduced new articles on anæsthetics and cod-liver oil, and has brought up the whole work to the existing state of the science. We cordially commend the work to the attention of the profession, especially to the student and junior practitioner.

ART. VII.—*Transactions of the Indiana State Medical Society*, at its Seventh Annual Session, held in the City of Indianapolis, May 20, 1856.

THE work before us is an octavo pamphlet of seventy-five pages, and contains a number of very valuable reports. The paper to which our attention has been more particularly directed, is the "Report of Dr. J. S. Bobbs on Surgery." Among the cases detailed in this report is one of melanotic tumor of the orbit, occurring in the practice of Dr. Bobbs. The history of this case is an exceedingly interesting one, and is accompanied by a remarkably life-like lithograph of the patient's face, with the diseased mass projecting from the orbit. The tumor was excised by Dr. Bobbs, and at the date of the report, two years and a half after the operation, there had been no return of the disease. Another instructive case embraced in the report is one of "Compound Dislocation of the Carpus," the history of which was furnished by Dr. M. H. Harding, of Lawrenceburg; and as it seems to illustrate a practice which is sometimes necessary in such injuries, we copy it in full:

"In the March number of the London *Lancet*, Samuel Solley, Esq., Surgeon to St. Thomas's Hospital, reports a case of compound dislocation of the forearm at the carpus, in which excision of the lower end of the radius was necessary to effect reduction, and urges attention to the adoption of such means as are necessary to prevent anchylosis of the joint by adhesion of the tendons to the new osseous deposition.

"As such injuries are rare, and some discrepancy of opinion exists as to the proper treatment, even among the highest authorities in the profession, and there having occurred in my practice, some years since, a case of almost precisely similar character, and resulting from the same cause, I have thought that a report of it might be of some interest in eliciting the opinion of the profession as to the proper treatment in such cases. The following report is taken from notes made at the time of the injury. On August 4th, 1839, I was called to see P. B., aged 14 years, who had fallen from a tree at a height of about 18 feet from the ground. His elder brother, who was with him and saw him fall, says that he fell head foremost with the arms extended, but that the principal force of the fall was received upon the right extended hand and arm. The violence of the fall produced a compound dislocation of the radius and ulna, throwing the hand backward upon the posterior face of the forearm, and necessarily lacerating and breaking away most of the soft parts on the anterior part of the wrist-joint. The radial and ulnar arteries were, however, uninjured. The bones of the forearm, by the force of the fall, were driven several inches into the ground, as was indicated by the debris of decaying leaves and abundant earth with which their carpal extremities were covered. I saw the patient about four hours after the receipt of the injury. I found the hand and lacerated muscles much swollen and retracted; the radius protruding through the lacerated soft parts on the anterior face of the hand just below the wrist-joint. Time enough had elapsed since the receipt of the injury, for reaction to be pretty well established from the effects of the concussion, and the shock to the nervous system incident to so violent and extensive an injury of the soft parts. He was collected in mind, and not suffering as much pain as might have been anticipated from the character and extent of the injury. After making suitable preparations, assisted by two men, I endeavored to reduce the dislocation by forcibly flexing the hand, and drawing down in direction of the axis of the forearm, the arm and forearm being fixed. And although assisted by two strong men, I could not succeed in doing so by any force that I thought safe to apply, without incurring the risk of more serious injury to the already weakened and lacerated structures surrounding the wrist-joint. Fearing more serious injury to the joint by any further effort at reduction, I determined to remove the end of the radius by means of the metacarpal saw. I had visited the case without knowing the character of the injury, and at this juncture found myself four miles from my office, and under the necessity of returning to it for my instruments, before I could proceed with the operation. I enveloped the injured part in cloths kept constantly wet in cold water, and went to my office for necessary instruments with which to excise the bone, and returned about six hours after the receipt of the injury, removed three-fourths of an inch of the carpal extremity of the radius, and effected reduction without difficulty. My recollection is, that the periosteum was not separated at the point of excision, although there is no mention of the fact in the notes referred to. The hand and forearm were placed on a well-padded splint in a supine position. This was secured by a roller bandage, leaving the wound on the front of the forearm bare, the limb placed on a pillow, and cold water dressings applied to the wound.

"August 6th. Patient has rested pretty well since the reduction of the dislocation. Hand and forearm very much swollen, but pain not very acute; pulse 115 per minute; bowels not having been moved for the last 48 hours; ordered 10 grs. sub. mu. hydrarg., succeeded by dose ol. ricini, if the bowels are not freely moved; wound looks healthy, and beginning to suppurate; continue the cold water dressings to hand and arm, and ung. resinæ to wound.

"August 9th. Case progressed favorably since seen last; swelling and constitutional disturbance passing away; wound granulating and closing up finely; continue dressing on the wound.

"August 15th. Made the last professional visit to-day; wound nearly closed; directed gentle flexion and extension of the fingers, with alternate pronation and supination of the hand. In eight weeks from the receipt of the injury, the patient had recovered very perfect use and control of hand and forearm. I have frequently seen this patient, years after the receipt of the injury, and I could not see that he suffered either deformity or disability to any appreciable extent in the injured limb.

"The only point of great practical importance, in either the case reported by Mr. Solley or myself, is, the little importance that either of us gave to the necessity of removing the bone at as high a point as there was separation of the periosteum, without any regard to the amount positively necessary to effect a reduction of the dislocation. I think that point was reached in the case above reported, and hence its speedy and favorable issue without an untoward symptom; although I am candid enough to admit that result may have been reached rather by accident than design, as surgical authorities, so far as I know, never have directed especial attention to this important consideration in the successful treatment of compound dislocations, when excision of the protruding bone is necessary; in my own case, only having regard to the necessity of removing so much as would enable me to effect reduction without too much violence to the soft parts. The report of Mr. Solley's case illustrates the importance of the practice in an eminent degree. He saw his case on the 20th of June, and removed one-eighth of an inch of the radius, which he says was denuded of periosteum, and reduction was readily effected. The case was then under daily treatment until the 1st of November, at which time, the wound not having healed, necrosis was suspected, and found, on examination, to exist, and one inch and a half of the necrosed extremity of the radius was removed, and against the 1st of January, six months and a half from the receipt of the injury, the wound was closed with a fair prospect of having an unimpaired hand and arm. Mr. Solley further remarks, in detailing the treatment of his case, 'I have no doubt that the periosteum had been stripped off at the time of the accident, or rather that the bone was detached from the periosteum, which being left in the arm,' he continues, 'will generate new bone, and a useful arm will be obtained,' without, however, alluding to what would have been better practice, to have removed the bone rather in reference to the extent of the separation of the periosteum, than the amount necessary to reduction of the dislocation. Another point of some practical importance grows out of a remark quoted above, 'the periosteum being left, new bone will be re-produced.' Is the periosteum the only source of ossific deposit? And to what extent may solution of continuity of the ossific structure be ventured upon with a prospect of re-deposition?"

The next two papers are a short "Abstract of Reports presented to the Cambridge City Medical Association for the year ending April 1, 1856, by Dr. L. R. Johnson," and a "Report on Microscopic Pathology, by Dr. David Hutchison, of Mooresville." Succeeding these are two reports on Erysipelas, one by Dr. George Sutton, of Aurora, and the other by L. Ritter, of Plainfield. We extract Dr. Sutton's brief notice of an epidemic of this formidable disease; and would call attention to the question concerning its connection with other diseases which prevailed at the same time:

"The epidemic form prevailed in the southeastern part of Indiana, in the counties of Dearborn, Ripley, and Decatur, in the years 1842 and 1843; and it is a fact worthy of attention, that it did not appear simultaneously in these counties, but spread over the country as erysipelas spreads over the body, passing gradually from one point to another. In November, it was prevailing near Napoleon, in Ripley County, in a very malignant form; by the first of January, it had reached Moors Hill, a small town some ten or twelve miles in a northeasterly direction; spreading on in the same direction, the disease extended over a belt of country reaching from Hartford to Manchester, about ten miles in breadth. It soon made its appearance in Wilmington in the same direction, and the practising physician of that place being severely attacked with the disease, the whole practice of that town and neighborhood came under my care; giving me an opportunity of seeing this disease in almost every form, before it reached Aurora. In May, it made its appearance in the neighborhood of Aurora, and it was the principal disease we had until November. Late in the fall it reached Lawrenceburg, and prevailed there during the winter; at the same time it made its appearance across the river in Boone County, Ky., and prevailed in the neighborhood of Bellevue. During its prevalence in the neighborhood of Aurora, Wilmington, and Manchester, a variety of diseases appeared simultaneously with it. We had puerperal fever, various forms of pneumonia, cynanche trachealis, tonsillitis, laryngitis, gastro-enteritis, phlebitis, and diffuse inflammation of every variety. These diseases increased in frequency as the erysipelas became more prevalent, and declined as it subsided. The question soon arose, are all these different diseases, modified by the prevailing epidemic, or are most of them forms of internal erysipelas? From a similarity of constitutional symptoms, and the intimate connection of erysipelas with many of these diseases, I was led to adopt the latter view; most of our books taught us, however, that erysipelas was a disease of the skin alone, and we find this view still advocated in many of our best medical works. But facts have been continually coming under my observation, which sustain the view just taken, and irresistibly impel me to regard those authors as correct, who consider erysipelas as a form of inflammation, not confined to the skin, but capable of spreading along other tissues. We want the united observation of physicians on this subject.

"That erysipelas occasionally attacks the mucous membranes, I think can be demonstrated to the senses. I have seen erysipelas spread in a well-circumscribed line over the roof of the mouth to the inside of the cheek and angle of the upper lip, and from thence over the face and head."

The remaining "Reports" are one on Stomatitis Materna, by Dr. J. S. McClelland, of Jefferson; on Diseases of the Eye, by Dr. Daniel Meeker, of Laporte; on Vital Statistics, by Dr. W. Lomax, of Marion; and an Address on European Hospitals, by Dr. T. J. Cogley, of Madison.

ART. VIII. *A Treatise on Therapeutics and Pharmacology, or Materia Medica.* By GEORGE B. WOOD, M.D., Professor of Medicine in the University of Pennsylvania, &c. In 2 vols. 8vo. J. B. Lippincott & Co. Philadelphia, 1856.

As a large majority of our subscribers have been already treated to an extended notice of the above valuable work in the last number of the Examiner, we deem it unnecessary to say more here than repeat the favorable opinion therein expressed. No recent American medical author has won a wider, better, and more deserved reputation than Dr. Wood; and the very flattering reception that the present fruit of his labor has received from the medical periodicals and the profession, both of this country and Great Britain, are sufficient evidence of its intrinsic merits. A few more productions of corresponding value, upon some of the other branches of medicine, from the pens of our native observers, would leave our medical schools no excuse for recommending foreign works to their students, and effectually remove the cause of the reproach so often cast upon us by European periodicals in reference to the paucity of our standard medical literature. To those of our readers who have not seen the review above referred to, we will only say, in the words of the London Lancet, "The same great principles of pathology pervade the present work as are found in the author's treatise on the Practice of Medicine, and which constitute the basis of what belongs to the general subject of therapeutics. We would strongly recommend Dr. Wood's volumes to the notice of the profession in this country. They will be found of great value to the student as well as the teacher, and are free from those technicalities which so much encumber works on materia medica of the present day."

Original Communications.

ART. I.—*Granular Conjunctiva.* By C. S. FENNER, M.D., Memphis, Tennessee.

THAT condition of the lining membrane of the upper eyelid, known by the name of granular conjunctiva, the result of purulent ophthalmia, does not seem to have attracted as much attention from European surgeons, as they have devoted to other ocular affections, not more destructive to the eye, and of less frequent occurrence. Mr. Cooper, in his Surgical Dictionary, devotes but little more than half a page to this subject. Mr. McKenzie disposes of it in less than four pages, while he gives twenty-eight to iritis, and ninety-five to cataract. In the Southwest, we have a score of cases of granular lids to treat, to one of iritis or cataract; indeed, more than half of all the diseases of the eye, coming under the notice of the surgeon, is of this character, and it is the cause of a majority of the cases of impaired vision, and entire blindness. Dr. Hays, in his edition of "Lawrence on the Eye," has given by far the best account of the pathology and treatment of this disease that I have seen. In regard to its frequent occurrence, and the want of knowledge of the profession in respect to its proper treatment, he says, "A very large proportion of the applicants for admission into Wills Hospital, labor under this disease; and the treatment which they represent themselves to have undergone, as well as the statements of private patients, leads us to infer that physicians generally are not as well acquainted with this complaint as it is desirable they should be." I propose, in this paper, to give a brief description of granular palpebral conjunctiva, as it occurs in the Southwest, and the plan of treatment I have found, after considerable experience, best adapted to give relief, and produce a final and an effectual cure. I am satisfied that this result cannot be obtained, in many instances, by any of the plans of treatment usually recommended by authors. Mr. Lawrence says, "The palpebral lining becomes thoroughly altered in structure, and we cannot be surprised that it should be difficult, and, indeed, hardly possible, to restore its healthy state." Mr. McKenzie says, "Frequent relapses may, at last, render this disease incurable." Dr. Hays remarks, it "is a most troublesome affection,—extremely obstinate,—subject to sudden and violent exacerbations from the slightest causes, and therefore demanding the incessant attention of the practitioner; and when allowed to continue, tending surely to the impairment, and most generally, indeed, the total destruction of vision." Every surgeon who has seen much of this disease, and attempted to treat it, will agree with the opinions expressed by the above-named authors, that the restoration of granular palpebral conjunctiva to a healthy state, is, at all times, difficult to accomplish, and requires much perseverance on the part of the professional attendant. It is not my purpose to speak of acute purulent ophthalmia, previous to this diseased condition of the lids, but I would remark, that I believe that if the original acute inflammation were promptly and judiciously treated at its outset, the granular state would seldom occur. The disease is the result of a long-continued high state of inflammation, which has been permitted to run its course, either from neglect or injudicious treatment. Very acute purulent ophthalmia, if checked early, will usually terminate in a natural condition of the lid.

We find granular conjunctiva presenting several different varieties.

1st. The everted lid has a villous appearance, the natural papillæ of the membrane are elongated, without much enlargement; they are very red, and evenly spread over the whole mucous surface. This form of the disease is attended with considerable redness of the ocular conjunctiva, lachrymation, and increased sensibility to light, but is not liable to frequent recurrences of acute inflammation.

2d. The inner surface of the lid appears as if spread over with bruised muscular fibre, is highly engorged with blood, and bleeds on the slightest touch. The fold of conjunctiva extending from the lower lid to the eye is much swollen, and engorged with dark venous blood, and, if the lid be depressed, rises up so as to touch or overlap the edge of the cornea. The caruncula lachrymalis is also swollen; and there is enlargement of the Meibomian follicles, with increased secretion. This form of the disease is subject to frequent and violent exacerbations, beginning with a stinging pain, usually at the external canthus, increased redness of the eye, swelling of the lids, severe supra-orbital pain, and other symptoms of acute conjunctivitis.

3d. The conjunctiva is converted into wart-like excrescences of various sizes, with deep sulci running between them.

4th. The lining membrane of the lid is thickened, and presents something of a cartilaginous appearance. The membrane is contracted, rendering it difficult to evert the lid, and when turned, the blood is forced out, so that the part appears white and glistening. The lids do not open as wide as usual, causing the eye to appear smaller than natural. This condition is more frequently found in middle and advanced age, and is attended with considerable opacity of the cornea and dimness of vision, but is less liable to relapses than the second and third varieties.

Granulations of the conjunctiva are spoken of by modern authors as a hypertrophy of the natural papillæ of the mucous membrane. In the first variety I have described, this is undoubtedly correct, but in the other forms there seems to be a complete change of structure. The cornea, at first, is not usually seriously affected, but the rough, diseased lid, constantly rubbing over its surface, causes thickening and opacity of its superficial layer, and enlargement of its arteries, which may be seen running from above downwards in considerable numbers; and if there is a small superficial ulcer, a large artery is generally found running from the temporal or nasal side of the cornea, and terminating at the ulcer. Upon every exposure, or atmospheric change, and indeed, frequently without any perceptible cause, acute inflammation comes on, attended with swelling of the lids, increased purulent discharge, photophobia, pain in the forehead, temple, cheek, and often soreness over the entire scalp. The vascularity and opacity of the cornea increase, and are not unfrequently followed by onyx, hypopyon, and extensive ulceration, terminating in synechia anterior, albugo, staphyloma, &c. More generally, the acute symptoms subside before the latter disorganizing results occur; the cornea slowly clears up, and the patient flatters himself that he will soon be well, but another relapse occurs, and his hopes are disappointed.

Each exacerbation adds to the injury of the cornea, until, after a longer or shorter period, varying in different persons, changes take place in the eye, as above mentioned, beyond the power of nature and art to remedy, and the patient becomes incurably blind. This is the usual course of the disease for the second and third varieties, but the first and fourth often remain for a long time without much change. In the first variety described, there are considerable redness, sensibility to light, and vascularity of the upper edge of the cornea, without much opacity. In the fourth or cartilaginous form, there is less vascularity of the cornea, but considerable opacity, and often superficial ulceration, extending barely through the conjunctival coat. Granular conjunctiva is at all times attended with an increased secretion of mucus, in the morning glueing the eyelids together, and during the day spreading over the cornea, and to some degree obstructing vision.

Treatment.—This may be divided into constitutional and local. The first important requisite in treating diseased palpebral conjunctiva is to obtain the patient's entire confidence. It is well, after examining him, and before asking any questions, to give a pretty correct history of his case, particularly in reference to the original purulent attack, his improvement and hope of speedy recovery, followed by exacerbation after exacerbation, until he has nearly despaired of ever being restored. A tolerably accurate description, thus given, will inspire the patient with confidence in regard to the professional attendant's knowledge of his case, and will make him listen to advice, and more patiently submit to the prolonged treatment requisite to restore his lids to a healthy condition. The nature of his case should be fully explained to him, and the difficulties attending its cure;

that it will require months of unremitting attention; that in all probability he will have occasional relapses, even after he regards himself as almost well; that he must implicitly follow the directions given him in reference to treatment, exposure, &c. Promising the patient to cure a bad case of granular lids in a short time may be very gratifying to him; but if that end fails to be accomplished in the specified period, he becomes desponding, dissatisfied with the treatment, loses confidence in his physician, and seeks another professional adviser.

I will first speak of general or constitutional treatment. Those who have suffered long from this complaint generally represent themselves to have been under the treatment of several physicians, most of whom promised a speedy cure; to have been blistered, bled, purged, starved, kept for weeks at a time in a dark room, "eye-waters" of various kinds dropped into the eyes, and all without any permanent benefit; the disease constantly getting worse. My practice is to put the patient upon a generous diet, and endeavor to raise his system and strength to a full standard of health; and direct him to expose his eyes to as much light as he can bear without pain, and allow the atmospheric air to come in contact with them. If, however, he becomes too plethoric, or a relapse occurs, threatening the safety of the cornea, blood should be drawn from the arm. The great object to accomplish, without which all local treatment for the restoration of the diseased conjunctiva will be unavailing, is to prevent the recurrence of attacks of acute inflammation, one of the characteristics of the disease, and which, in the changeable climate of the Southwest, is of very frequent occurrence, particularly in the winter and spring months. I have tried nearly every plan of treatment recommended by authors to accomplish this object, and generally without success. I have used quinine, arsenic, hydriodate of potash, veratria, wine of colchicum, mercury, opium, blisters, setons, &c., without any permanent benefit. Quinine, in ten-grain doses, will generally cut short the exacerbation, and relieve the supraorbital pain, but does not prevent a recurrence. I have noticed that relapses usually take place in numbers of cases of this disease simultaneously. For instance, if I have a dozen patients under treatment, and all are improving, they all or nearly all have a relapse about the same time, although most of them assure me they have not been imprudent, or exposed themselves in any way. I have sometimes been able to predict that my patient would be worse in the morning, from feeling a rheumatic pain in my own shoulder the preceding night, and generally my prediction has proved correct. Indeed, of so little avail have I found ordinary treatment, in preventing exacerbations, that for several years I was in the habit of assuring those who came to me with this disease in the winter or spring, that I knew of no means of preventing their occasionally getting worse during the atmospheric changes of the season; that the object of treatment would be to prevent those attacks as much as possible, and in the meanwhile I would apply local treatment to the lid until steady warm weather should set in, beginning about the middle of May, when, in all probability, the relapses would cease for several months, and during that time the lid could be brought to such a condition, and the eye regain its powers, so as to be able to resist the effects of subsequent atmospheric influences. Patients usually get much better even without any treatment during the summer months, and entertain high hopes of recovery, but without appropriate local treatment, a relapse takes place in the fall.

Regarding these exacerbations, accompanied with circumorbital pain, soreness in the periosteum and scalp, as of rheumatic origin, about two years ago I was induced to give a trial to the phytolacca decandra or poke, from its well-known efficacy in relieving rheumatic affections, and the result has far exceeded my most sanguine expectations. With the aid of this remedy, I have been enabled to effectually cure cases of granular conjunctiva, that, without it, would have resisted all my efforts; indeed, with me it has proved almost a specific for the exacerbations attending this complaint. Patients fully under the influence of the phytolacca, often expose themselves and take a severe cold without affecting the eyes in the least. I make use of the root, and prescribe it either in the form of a very strong decoction, or tincture; the former I prefer, as less liable to nauseate or act on the bowels. I direct a half peck of the root cut in small pieces, to be put into a kettle, to which is added four quarts of water, to be boiled down to one quart and strained. Of this a wineglass full may be taken every two or three hours. Some patients require more than others. The dose should be sufficient to produce a fulness of the temples and head a few minutes after it is taken, and patients soon learn to know the quantity required to produce this effect. Besides the fulness of the head, it causes flushing of the face, a general glow and perspiration over the entire surface of the body, often fulness of the stomach, and occasionally nausea. After having been used four or five days, it usually acts on the bowels, when an opiate should be administered as occasion may require, and the quantity of the decoction diminished for a time, to be increased, however, on every unfavorable change of the weather, or the slightest symptom of a relapse. I have not yet seen a severe recurrence of acute inflammation in this disease, where the patient was kept fully under the influence of the phytolacca. If there is ulceration of the cornea, or much opacity, I usually prescribe a pill composed of one grain of calomel and the fourth of a grain of opium, to be taken every night. I know of no remedy so efficacious in promoting absorption of lymph deposited in the texture of the cornea as mercury, either in the form of calomel or blue mass, or, if these remedies are found to act on the salivary glands, I use the corrosive chloride, combined with the compound syrup of sarsaparilla. The latter form of mercury rarely salivates; it may be continued for months, and is particularly adapted to strumous cases attended with severe photophobia. If the system has been much reduced, and is in an anæmic condition, the preparations of iron will be of service.

Local Treatment.—There has been, and is yet, a great variety of opinion among surgeons in regard to the proper local treatment of granular conjunctiva, and a great many stimulating, caustic, and astringent applications, have been recommended, most of which I have found absolutely injurious. The only articles I now use locally are a saturated solution of the acetate of lead, the undiluted liquor plumbi diacetatis, the sulphate of copper, and occasionally the knife. In the fourth variety I have described, where the lining membrane is contracted, white when everted, and having the appearance of cartilage, I have found the saturated solution of the acetate of lead brushed over the diseased surface every morning restore the parts in a very few weeks. The solution should be applied for two or three minutes, with a camel's hair pencil. This remedy answers better than any other in simple swelling of the conjunctiva remaining after the first attack of purulent ophthalmia, when the inflammation of the eye has subsided, and before repeated exacerbations have changed the structure of the membrane. In the other varieties, I have found it of service alternated with sulphate of copper. When the granules are loose and spongy, a few applications of the acetate of lead will contract and harden them, after which its efficacy seems to cease, when the sulphate of copper will be more beneficial. The lead should be applied until the part becomes of a milky whiteness, caused by the coagulation of the albumen of the blood, after which a stream of warm water from a sponge should be passed over the lid, before it is permitted to fall back to its place. If, on the next day, the whiteness has nearly disappeared, the same application should be repeated. Sometimes the whiteness remains for several days without any perceptible change, when the remedy will generally be found to irritate the eye, and not adapted to the case. I have seen the lead continued until there seemed to be a white deposit on the diseased surface, beneath which the parts were extremely sensitive, and inclined to bleed upon the slightest irritation.

In the first three varieties of the disease, more benefit will result from the local application of the sulphate of copper than from any other remedy; and I believe that this article, occasionally alternated with the solution of the acetate of lead, will accomplish all that can be desired. A firm, well-crystallized piece of the salt should be selected, cut to a wedge-shape, and fastened in a quill. The lid should be everted, and the mucus wiped away with a soft sponge; the end of the copper should be dipped in water, and rubbed over the entire diseased surface until it becomes of a dirty white or greenish color, when a stream of water should be allowed to flow over the surface, before the lid resumes its natural position. This is to be repeated every morning. It causes considerable pain and redness of the eye, which soon passes away, and the relief is so marked that the patient soon learns to prefer this application to any other. Under this treatment the spongy granulations contract, harden, become flattened on the surface, the fissures gradually disappear, until the whole surface is nearly smooth, although the membrane remains thickened. At this stage patients are so much relieved that they often consider themselves well, and dislike to submit to further treatment, particularly if they are at a distance from home, or think they can continue the applications with the assistance of a friend. The first point of healthy conjunctiva is seen at the edge of the tarsus, in the centre of the lid; a few bloodvessels will be discovered running from the edge, and lost in the diseased membrane. These vessels become shorter on either side of the centre of the lid, until they disappear. Gradually the arteries extend, until the whole surface assumes a healthy appearance, the temporal and nasal portions being the last to yield. The healthy conjunctiva seems to extend from the edge of the tarsus, in the same manner that the skin spreads over a denuded surface.

I was formerly in the habit of using the knife freely in the beginning of the treatment, shaving off the fleshy growth, but I found no benefit from that course—a diseased surface still remaining, from which the granulations sprung as freely as before—and for a long time I entirely abandoned its use; but I have subsequently found it beneficial, after the sulphate of copper has been used until the granulations are hardened and contracted; then, shaving off the surface of some of the most prominent near the edge of the tarsus, and immediately applying the copper, I have found to hasten the cure. Nitrate of silver, either in solution or substance, which has been so much lauded as an application to granular conjunctiva, has in my hands proved injurious, causing swelling of the lids, inflammation, and not unfrequently ulceration of the cornea. It does not produce the kind of action necessary, which should be actively stimulating and astringent, to produce contraction and absorption of the granules, rather than their destruction by caustic substances. During the exacerbations I have found the solution of the nitrate of silver, of the strength of from twenty to thirty grains to the ounce of water, more efficacious than any other remedy, when applied with a brush to the engorged fold of conjunctiva extending from the lower lid to the eye. I have tried the iodide of zinc, as recommended by Dr. Hays, but the result has not proved satisfactory. A solution of common salt is sometimes of service in mild cases, and makes a very good occasional wash for the eye during the day, to remove any slight roughness or smarting, and to clear the cornea of a thin stratum of mucus, that accumulates on its surface. Active escharotics, according to my experience, should never be employed; they leave an abnormal surface, from which the disease is rapidly reproduced. They prevent the parts from ever assuming a healthy state, and the inflammatory action they induce rarely fails to injure the eye. Mr. Lawrence remarks: "After the use of escharotics, the conjunctiva does not regain its normal state; it exhibits traces of the former affection, which, however, do not interfere with its function. It is thicker and has a leathery appearance, with a darker red color than in the natural state, and sometimes we observe whitish cicatrices." Walther's remarks in reference to the escharotic plan of treatment are highly appropriate. He says: "The benefit derived from them is, on the whole, inconsiderable; even when methodically and cautiously employed, they either do not effect a complete cure, or bring it about very slowly. . . . Most of them are so strong, that the eye, even in its relaxed state, will not bear them without experiencing inflammatory reaction. . . . I am indeed astonished when I see one of the most delicate organs attacked with a series of applications so powerful and destructive, from corrosive sublimate to arsenic. The number of these local remedies is calculated to excite distrust. When a disease can be easily and safely cured, the remedies are few, simple, and recommended by reason and experience. They become multiplied in proportion to the obstinacy and tediousness of the complaint." Counter-irritation by means of a seton or blister to the back of the neck, will be found serviceable, and the frequent bathing of the eye during the day in warm water, will give much relief. The above plan of treatment regularly and systematically pursued, will rarely fail to bring about a perfectly healthy condition of the palpebral conjunctiva, and a complete restoration of vision, where the eye has not been injured beyond the power of reparation.

ART. II.—*A Paper on the Management of Transverse Presentations of the Fœtus.* Read before the Louisville Medical Club. By JNO. HARDIN, M.D., Professor of Obstetrics in the Kentucky School of Medicine.

IN the following remarks, it will not be necessary for me to notice the prevailing mode of practice in transverse presentations of the fœtus, further than briefly to state it, so as to present fairly, in contrast with it, other methods, which, it seems to me, have received too little attention.

We are instructed, by nearly all the obstetric authorities current in this country, that, in the treatment of arm and shoulder presentations, we should introduce the hand into the uterus, and carry it onward, until it comes in contact with the foot, or knees of the fœtus; and, having seized one or both feet, or one or both knees, we are to accomplish the version, and deliver, as if the case had been originally a foot presentation.

Some of our teachers think it very important that both feet should be brought down when it can be done; while others prefer to bring down one only; even in those cases where it would be perfectly easy to seize both. The former prefer both, because the child is thus brought more nearly to the shape of a wedge, and, therefore, the nates more easily pass the os uteri; while the latter regard delivery by traction on one limb as preferable, because the bulk of the nates being increased by the addition of one thigh folded upon the abdomen, more perfectly dilates the parts through which it must pass; and thereby renders the transmission of the head more easy and diminishes the risk to the child from compression of the funis. In those cases in which the abdomen of the child looks anteriorly, they prefer delivery by traction on one limb, for the further reason, that by this method, rotation is certainly accomplished, so as to bring the dorsal aspect of the child to the abdomen of the mother,—a point of prime importance, when the head comes to pass through the pelvis.

Dr. Simpson has suggested a mode of procedure, partly in accordance with the last-mentioned method, involving a material improvement; this relates to a choice as to the limb which shall be brought down. While he prefers, for the reasons already assigned, to bring down but one limb, he thinks there is abundant reason for giving the preference to that limb which is the opposite of the presenting shoulder,—thus, if the right shoulder present, he selects the left foot; and if the left shoulder present, then he selects the right. By acting on the leg which is opposite to the presenting shoulder, he accomplishes rotation as well as flexion, and this rotation withdraws the presenting shoulder from its position at the os uteri. Whereas, if the leg corresponding to the presenting shoulder, is brought down, it is accomplished simply by flexion of the body of the child upon itself. This correction of position is not so easy by this method as by the other, where we combine the movement of rotation with flexion.

I hope the Club will indulge me in the relation of a case that I encountered last spring, in conference with Dr. O'Reilly, of this city, in which I was enabled to turn and deliver, without introducing more of my hand than the fingers, into the uterus.

The left hand of the child was protruding from the vulva, the head to the right side, and the back looking forward. The woman was placed upon her back, and brought fully under the influence of chloroform. I introduced the whole of my right hand into the vagina, and placed two fingers in the axilla of the child and applied the left hand to that part of the abdomen of the mother, against which the fœtal head rested;

a double movement was then given to the child, by pressing, with my right hand, the shoulder laterally towards the fœtal head, while, at the same time, the left hand, resting low down upon the side of the abdomen, pressed the head upwards towards the fundus of the uterus. By this movement, which was accomplished with great facility and despatch, the pelvic extremity of the ovoid was brought directly over the pelvic aperture, and a foot seized, without the further introduction of the hand into the uterus; no part of the hand, except the fingers, entering that cavity, and my wrist being still surrounded by the vulva. In this case, both mother and child, which latter was large, did well; I may add, however, that I should not have been able to deliver the head in time to save the child, but for the assistance of one blade of the forceps, used as a vectis. Although the manipulation described in this case has not hitherto been used, as far as I know, in any case of podalic version, I do not claim to have originated the method, but only used to accomplish version by the feet, a mode, to which I shall again refer, which has been advised for the accomplishment of cephalic version.

In cases of transverse presentation, where the membranes have been ruptured and the waters discharged, the uterus contracts and is moulded to the form of the ovoid. The long diameter of the child, lying across the abdomen, from ilium to ilium, the greatest diameter of the uterus must be in the same direction; but the presenting shoulder dipping down into the true pelvis, causes the body of the child to be flexed laterally, and thus brings the cephalic and pelvic extremities nearer together. If, under these circumstances, we push the shoulder directly upwards, we shall straighten the body, and thus widen the distance between its two extremities, and by so much increase the lateral diameter of the uterus; and when the force elevating the shoulder is removed, the uterine contractions will immediately force it down to its former position; but if the pressure upon the shoulder is made in a lateral direction, and at the same time, by a hand applied externally, the head is pressed upward toward the scrobiculus cordis, the fœtal and uterine surfaces being curvilinear, glide easily, one upon the other, and the long diameter of the ovoid is made to correspond to the long diameter of the maternal abdomen, the uterus participating in the same change as that of its contents.

It only remains now for me to notice briefly cephalic version, a method as old as the annals of medicine, but one which has nearly fallen into disuse; and it is no wonder that it is so, when we consider the difficulty of its accomplishment, if attempted in accordance with the directions of our teachers.

Some of these tell us that the mode of procedure is to "push the shoulder up out of the way, grasp the head and bring it down to the brim of the pelvis;" a method not to be accomplished either easily by the accoucheur, or with safety to the mother. Others do not allude to it at all, while some mention it only to reprobate it.

More than twenty years ago, Dr. Hodgen, of Campbellsville, Kentucky, and myself, were summoned to a case of arm presentation, which had been under the management of a midwife for eight hours. The waters were discharged, the hand protruded externally, and the labor pains were very strong and propulsive. The woman, who was muscular and plethoric, was placed in the sitting posture on the edge of the bed, her feet resting on chairs, pillows being arranged behind her ready for use at the proper time. I bled her from a large orifice to syncope; as soon as this was induced she was laid down, and before she recovered Dr. Hodgen had rectified the position by returning the arm, pressing the shoulder laterally away from the os uteri, and thus allowing the head to drop into its place. In half an hour the labor was accomplished by the natural efforts.

During my residence in Greensburg, my friend and former partner, Dr. D. P. White, substituted the head for the shoulder, and gave the case up to the natural efforts, which safely finished the delivery.

Dr. S. B. Richardson of this city, informs me that he has converted three shoulder into vertex presentations; and I had hoped to have had a detailed statement of these cases to submit to you, but have been disappointed in my expectations of receiving them.

Dr. M. B. Wright, of Cincinnati, formerly Professor of Obstetrics in the Medical College of Ohio, has published a paper, which, I think, was submitted to the Ohio State Medical Society, containing an interesting detail of seven cases (if my memory is correct), in which the head was substituted for the shoulder; most, if not all, of which cases he saw in consultation. In some of them the membranes had been ruptured for more than twenty-four hours, and, if I recollect aright, in some for twice or thrice so long a time. In some of the cases ineffectual efforts had been made by other physicians, and then by himself, to reach the feet and turn by that method; and in these cases he succeeded in converting the shoulder into a head presentation. I regret exceedingly that I have mislaid his paper, and it is so long since I read it that I cannot give the interesting details as fully as I desire to do. More especially do I regret its loss, as otherwise I should avail myself of the opportunity to transcribe his description of his mode of manipulation; but it is substantially as follows. Having ascertained which shoulder presents, and to which side of the mother the child's head is directed, the hand is introduced into the vagina. If the fœtal head is to the mother's right side, the left hand is to be used; if the head is to her left side, the right hand is to be preferred. The protruding arm is to be returned into the uterus, then the fingers are placed upon the top of the shoulder, and pressure made laterally towards the child's pubis, and at the same time the other hand, applied on the outside of the abdomen, bears the pelvic extremity of the ovoid up towards the fundus uteri; the fœtal surface being convex glides easily over the concave surface of the uterus, and as the shoulder is borne away from the os uteri, the head necessarily falls into and occupies it. By this change in the situation of the child, the shape of the uterus is altered—its vertical instead of its lateral diameter being the longest—and there is no further danger of the head being turned aside, and the shoulder occupying its place.

We are informed by Churchill, that Wigand asserts the practicability of making this change solely by external manipulation; and Velpeau has confirmed the statement by his own experience.

In any of these operations, the great obstacle to success is uterine contraction. Formerly we were taught to use the lancet, tartarized antimony, and opium. Of these, the lancet is much the most efficient, if used to the extent of producing syncope, as in the case I have detailed. If the operation be performed before the woman recovers from this state, there is little or no resistance offered by the uterus; but it may not be safe to induce syncope, for several reasons too obvious to require specification. Opium and tartarized antimony will mitigate, but cannot suspend, the uterine actions. Fortunately, modern investigation has brought to our knowledge a remedy, prompt, efficient, and so nearly safe that we do not hesitate to employ it in preference to all others. This remedy, I need scarcely say, is chloroform, used to the extent of producing as full and complete anæsthesia as would be required for amputating a limb. It holds the uterine action in complete abeyance, so that we may calmly and considerately employ any mode of changing the presentation of the child that we may desire.

From what I have said, you will have perceived that I regard cephalic version as not only practicable, but, under some circumstances, preferable to any other. Dr. Churchill concludes from statistical data, that in podalic version, one mother perishes in every sixteen cases, and one child in rather less than three. The danger to the mother arises from laceration of the uterus, from the shock of the operation, or from inflammation following delivery on account of contusions or other injuries. The danger to the child springs from compression of the umbilical cord, while the chest and head are passing through the pelvis.

I conclude, then, that cephalic version should be preferred in those cases where the pelvis is of average size, where the uterus is still capable of vigorous propulsive action, and where there is no necessity for hastening delivery.

On the contrary, podalic version is preferable where the uterus has become exhausted, so that the natural efforts cannot be relied on to accomplish the delivery; where the brim of the pelvis is contracted to such an extent as to offer a serious obstacle to the transmission of the head; where puerperal convulsions, dangerous hemorrhage, or any other circumstance indicating the necessity for speedy delivery, occur.

ART. III.—*On the Ligation of Arteries.* By T. P. GIBBONS, M.D.

THE danger of secondary hemorrhage is well known to be one of the great drawbacks to the ligation of the large and deep-seated arteries. This is particularly true with regard to the femoral artery, owing to the number of its collateral branches. Indeed, so many unfortunate results, from this cause, have occurred in the ligation of this vessel, that some surgeons prefer, rather than resort to it, in certain cases, to amputate the limb.

The method usually recommended for the performance of ligation, is to cut down upon the vessel and open the sheath, without disturbing the tissues more than just sufficient to carry the aneurismal needle, armed with the ligature, around it. By this plan of procedure, it is contended, that the danger of extensive sloughing is avoided. This is unquestionably true. But how is the danger consequent upon the application of the ligature immediately below a large collateral branch, to be obviated by such a process?

Of all the animal tissues, that of arteries is least liable to slough; therefore, taking this fact in consideration, it appears a fair inference, that by exposing the artery as much as may be necessary in the method for applying the ligature, presently to be described, the danger of secondary hemorrhage is, to a considerable extent, lessened.

Some two years ago, I witnessed the operation of ligature of the femoral artery, for an extensive osseous aneurism in the head of the fibula. The case progressed favorably, the ligature came away at the end of six weeks, and the wound closed. The operation, so far as the cure of the aneurism was concerned, was successful. The man subsequently died from an attack of delirium tremens, and an opportunity was afforded of examining the parts. The ligature had been applied midway between two collateral branches, about an inch and a quarter apart. An organized plug, upon each side of the ligature, had produced complete obliteration of the calibre of the vessel.

The peculiar plan of the operation was as follows. The artery was exposed in its sheath, to the extent of half an inch; a grooved director was carried *obliquely* under it, and raised so as to allow the ends of the instrument to rest upon the edges of the wound; the director was then brought round at right angles to the course of the vessel, and an eyed probe, armed with a ligature, carried along the groove. The artery was tied at this point.

The mechanism of the process is very simple. When the director is carried obliquely under the vessel, as the primary step, and subsequently moved round at right angles with it, it will be observed that the position which the instrument holds beneath the artery, is such as to insure the application of the ligature midway between the two nearest points of resistance; which points usually to the connection of the collateral branches. The reason for its occupying this particular position is sufficiently evident: in moving it from a branch the resistance becomes less, while in moving it towards one, the resistance is of course increased; the consequence is, that the director, when placed at right angles with, and under the vessel, naturally assumes a position where the two forces act equally, that is, equidistant from the two points of resistance.

That the danger of destroying the vitality of an artery, is not so great as is usually supposed, may be inferred from the following case. Some time ago, I had occasion to cut down upon, and tie the radial artery for secondary hemorrhage, which occurred from a wound at the wrist. The artery was exposed and separated from its sheath for the distance of an inch, and the ligature applied at the distal extremity of the wound. Everything progressed favorably, the ligature came away about the usual time, the wound healed kindly, and there was no cause to regret having isolated the vessel from its cellular attachments. We see the same indisposition to slough on the part of the arteries frequently manifested when they are exposed in deep ulcerating wounds, where the process of destruction has involved almost every structure in the neighborhood, including the cellular tissue immediately around them; and yet, under such adverse circumstances, their integrity is perfectly preserved. If then, nature has endowed these vessels with such remarkable powers of resistance, why should surgeons hesitate to act on the suggestion so plainly thrown out, and reap the obvious advantage which isolation of the artery, and separation from its vascular conduits, will afford them in the operation of ligation for aneurism?

ART. IV.—*On the Economical Use of Quinia in Intermittent and Remittent Fever.* By O. C. GIBBS, M.D., Chatauque Co., N. Y.

THERE has been much time spent, and many experiments made, with the view of finding a remedy that might serve as a substitute for quinia, in those diseases over which that agent exerts almost a specific control.

The high price of the article, the frequent and ever-recurring necessity for its administration in some localities, and the probable failure of the cinchona tree at no very distant day in the future, have all acted as so many stimulants to the search for the much-desired substitute. Considering the frequency of the so-called miasmatic diseases in many situations, and the high price and unpalatableness of the agent most successful in their cure, a substitute for the latter remains a much-desired desideratum. Whether or not such a substitute exists in nature is a question yet to be decided. Until such a discovery is made, it may not be inappropriate to study economy in the use of a remedial agent, of which the supply may not always equal the demand, and the cost of which must ever in some measure militate against its liberal administration or prescription, in miasmatic diseases occurring among the poor.

There is no small amount of diversity of opinion among medical authors and practitioners, as to the amount of quinia necessary to arrest and cure a case of miasmatic fever; and the same diversity exists in regard to the amount of preliminary treatment, and the appropriate time for the commencement of the curative agent. There are many physicians now, and a few years ago there were more, who make no attempt to arrest an intermittent, until after the patient has suffered the recurrence of several paroxysms; and many, also, who never administer quinia in a case of *remittent* fever until it subsides into a distinct intermittent. Many physicians suppose that venesection, emetics, cathartics, the anti-bilious and alterative influence of calomel, and the sudorific effect of Dover's powders, are indispensable preliminaries and preparatories for the safe administration of the anti-periodic. This opinion, where miasmatic diseases are most prevalent, is gradually wearing away. For myself, I have believed, and acted upon that belief for years, that a cathartic, of which calomel formed an ingredient, and, occasionally, bloodletting, in nine-tenths of the cases, as they have fallen under my observation, are the only preparatory measures demanded. This treatment involves little or no loss of time, as the anti-periodic can usually be brought to bear upon the case in sufficient time to prevent the recurrence of the succeeding paroxysm. I do not now remember to have met with more than two instances, in the last five years, in which a paroxysm of fever has succeeded the commencement of medication, excepting in cases of relapse after a temporary arrest of the disease for two or more weeks. In each of these two cases, a single paroxysm followed the commencement of treatment, when the disease was promptly arrested. And my experience proves that periodical fevers are much less liable to complications and relapses, where the disease is promptly met and arrested at the commencement, than when delay is allowed for the purpose of preparatory treatment, or with a view of waiting for a distinct remission or intermission, in cases of remittent forms of disease.

I do not propose here to argue the propriety of the early administration of quinia in intermittent and remittent fevers, however confident I may be of the judiciousness of such a procedure; the object of the present paper being simply to suggest a plan of meeting these diseases, with perhaps more than average promptness and permanency of success, and, at the same time, with more than ordinary economy in the use of the sulphate of quinia.

Some practitioners are in the habit of prescribing from two to four grains of quinia once in three or four hours during the intermission of the febrile paroxysm; while others advise from eight to ten grains, to be repeated every four or six hours during the same period of intermission. Under the former plan, the paroxysms will frequently continue to recur for several days; under the latter, though a prompt arrest is usually made, the medication is unnecessarily large; and as both advise a continuance of the remedy in order to secure a degree of permanency in the cure, the amount of the sulphate administered is, in the aggregate, much above what I have reasons for believing the necessities of the case demand.

In the year 1851, while I was practising medicine in Perry, Lake County, Ohio, malarious fevers were exceedingly common among the Irish laborers upon the Cleveland and Erie Railroad. As they were mostly poor and transient, and, as a physician was expected to furnish his own medicines, it became a matter of policy with me to reduce professional services and cost of medicines to the lowest minimum, compatible with the safety and speedy recovery of the patient. Because many of them had been previously ineffectually treated with quinia, and because of their ignorant and unreasonable prejudices against that article, I was obliged to give it in an unusual form, thus avoiding their prejudices, and giving them the impression that the treatment was not a repetition of that which had previously proved ineffectual. After a little reflection, a mixture was prepared after the following formula, which, in all my subsequent experience, has proved uniformly adequate, with such adjuncts as the peculiarities of some cases seemed to require.

℞—Sulphate of Quinia,
Tartaric Acid, āā ℈ij.
Tincture of Opium, ʒij to ʒiij.
" Capsicum,
" Camphor, āā ʒij.
Simple Syrup, ʒx.—Mix.

The tartaric acid converts the sulphate into a tartrate of quinia, which is readily soluble in the simple syrup. Opium is probably the best known adjuvant to the quinia, and the camphor and capsicum my experience proves to be no unimportant additions. My usual directions for an adult have been as follows: take three compound cathartic pills at evening; and, in the morning, two or three hours before the paroxysm is expected, take a tablespoonful of the mixture; and if the type of the disease is quotidian, take two teaspoonfuls of the mixture every morning, for three succeeding mornings; then one teaspoonful every morning thereafter, until the two ounces of the mixture are taken. If the type of the disease is tertian, the mixture is to be given in the same doses only every second morning. In ninety-nine cases in a hundred of intermittent fever, as they have fallen into my hands, the first dose of the above mixture will arrest the paroxysms; and the repetition of the remedy, at intervals corresponding with the type of periodicity, is usually sufficient to effect a cure, more permanent than that following any other plan that I have ever pursued.

So much for the quantity, dose, and time of administration of the antiperiodic remedy, simultaneous with which any other remedies may be administered, which the circumstances of individual cases may indicate. It is but just to observe here, however, that in those cases among the indigent Irish, where the abovementioned remedies were first prescribed, no additional medication was employed. And yet, from these cases, the reputation of the mixture so rapidly extended, that I was soon consulted in miasmatic diseases, much beyond my usual limits of practice; and, before the first autumn had passed, had been many times consulted, in behalf of patients living fifty, and a hundred miles away. I make mention of this fact in no spirit of egotism, but simply in confirmation of my belief, that the above plan of treatment is more speedily and permanently effectual than that usually employed by physicians in the vicinity of where I then resided.

The difference between an intermittent and a remittent fever, seems to me to consist in a higher febrile excitement in the latter, with a protracted paroxysm, and consequently less complete intermission, and greater tendency to visceral congestion and inflammation. Hence, in cases of remittent fever, if seen before inflammation of any organ has been established, I usually bleed as liberally as the attending circumstances will warrant, and then resort to the curative measures above specified without delay; and the happy results that I have thus far met with, prove the safety and propriety of the procedure.

According to my observation, forty grains of the sulphate of quinia are usually sufficient for the speedy cure of most cases of miasmatic fever. What success would follow such limited medication further south, where these fevers assume a greater degree of malignancy, I have no means of determining.

ART. V.—*Observations on a New Plan for the Treatment of Uterine Hemorrhages.* By M. DUPIERRIS, Havana, Cuba.

I DO not intend to write a history of uterine hemorrhage, but of the treatment only; because this treatment is applicable to all kinds of uterine hemorrhage, no matter how caused. At the same time, it will not be amiss to offer a few general remarks on the subject.

The etymology of the word hemorrhage (*aima*, blood, and *reô*, I flow), expresses an action either pathological (such as occurs after the wounding of a vessel), or simply critical, as in certain constitutional hemorrhages, or, finally, presenting the characters of a physiological function, as happens in menstruation. Hemorrhages, however, may be divided into two general classes, normal and abnormal.

Many examples, one of which I have observed, are recorded, which prove that women, at a very advanced age, can be affected by menstruation for several months at a time, without any apparent injury to the economy. Hence, menstruation ought to be considered as a normal hemorrhage. Allow me to mention, in as few words as possible, the case of a lady of seventy-five years of age, who for three months consecutively had her courses as well-marked as in her youth, even to the exact number of days. This lady had fourteen children by her first husband. She was married a second time at the age of fifty-three; and, two years after, was delivered of a daughter, who was nineteen when I learned the above facts. Having been consulted by this lady, who could not believe that the discharge was natural, I persuaded her to do nothing; at the same time tranquillizing her by the recollection that her health not being affected, the flow could not be morbid.

But, when I assert that the menstrual flow is not like other hemorrhages, I must explain my meaning. Menstruation is not, properly speaking, a hemorrhage, that is to say, it is not a disease; and yet, I believe, that the periodical flow occurs in the same manner as a hemorrhage, because it is produced by the rupture of vessels. In other words, a certain process goes on in the ovaries, which lasts fifteen days in some women, and a month in nearly all. This process occasions an afflux of blood towards this part; the Graafian vesicles are developed and open; the egg is expelled by the mass of blood which flows to the part, and the discharge continues to push the egg, which arrives at its destination when menstruation ceases. The function, which is manifested by the periodical flow of blood, is the one which prepares the elements for the reproduction of the human kind. Is this the mode of formation of menstruation? I will try to prove it, by adducing some facts in support of my opinion. Some authors believe that the period at which woman is most apt to conceive, is immediately after the termination of her courses. I agree with them. Comparative physiology throws light on the subject. Twice a year the bitch is affected by a bloody discharge from the sexual parts, which lasts for three or four days. This discharge is preceded by a tumefaction of these parts, which is a sign that fecundation can occur. Since this is the only time in which sexual intercourse can occur, ought it not to be concluded that the eggs leave the ovary, and that the blood which flows, as well as that which causes the tumefaction of the external parts, was brought there in a manner very similar to that already mentioned. But since this function continues for a longer time—for this process requires six months for its completion—it is easy to understand that the dilatation of the cellular tissue, going on slowly, will allow a greater tumefaction; while in woman, the function which renders her capable of conceiving is completed every month; so that the afflux of blood has not the time to produce the same degree of congestion as in the former. For the same reason the genital organs are not tumefied at the menstrual period. It appears to me, also worthy of remark, that if the flow of blood from woman did not find an issue, furnished by the rupture of the Graafian vesicle, it would be more than sufficient to congest all the tissues of the organs of generation, and then the external flow would be less extensive, since the portion thus effused, would be more likely to be reabsorbed than poured into the uterine cavity.

If what I have just said is true, we may safely infer that menstrual blood does not differ from blood obtained from a ruptured vessel, except in the addition of epithelial pavement-cells and of the mucous fluids, proceeding from the genital organs, which combine with the serum of the blood. This takes place, as well in the bloody discharge occurring in organic diseases of the uterus, and in the commencement of hemorrhage, as in menstruation. Now the analysis of the blood could not afford means of distinguishing between a menstrual discharge and a hemorrhage, especially where menstruation lasts several days, or where a hemorrhage is slight.

It has also been said, that menstrual blood has not the power of coagulation. Clots are not formed when the courses are slight; but it is not thus in cases where they are abundant; and I have seen a number of instances in which clots of moderate size were formed, without any symptoms of hemorrhage being discoverable. This sign, so often pointed out as an essential diagnosis, is, in my opinion, of little value. In examining the symptoms, it ought not to be forgotten, that the menstrual flow can be a great deal more abundant than usual, without being caused by hemorrhage; because this greater abundance may be the result of the non-appearance or the diminution of the courses of the preceding month. I must also say, that there are uterine hemorrhages which take on the periodic character of menstruation, and are confounded with them, no matter how they may be produced.

I shall now proceed to establish the diagnosis of uterine hemorrhages.

But before I enter into the description of the symptoms of this bloody discharge, I will mention that I do not make any difference in regard to the mode of production of hemorrhages. These are all the consequence of the rupture of bloodvessels, whatever may be the exciting cause. Thus I do not admit hemorrhage by exhalation, nor its subdivisions, into active or passive hemorrhages. Physiology and anatomy sustain the opinion which I here advance; hence, in certain cases the rupture of the vessels is produced by the progressive ulceration of the surface of the tissue affected, as in cancerous or other tumors; in other instances it is the afflux of blood into the capillaries which produces their rupture, &c. &c.

It has been said that hemorrhages which are not puerperal are hardly ever observed before puberty, and still more rarely in young virgin women. The same author refers besides to the opinion that in young girls, after puberty, the discharge is generally symptomatic of an abortion.* I do not wish, however, to influence my readers in such a way as to make them forget that such may occasionally be the case; but, an opinion so exclusive exposes the practitioner to form his judgment too hastily in a question which touches on legal medicine, and to become an instrument of sorrow instead of consolation to humanity. I have, on several occasions, observed uterine hemorrhages in young women still virgins. I watched them with that interest which so delicate a subject inspires; and I positively affirm that the disease in girls at puberty can take place with a certain frequency, without its being established as a rule that it is produced by abortion. On the contrary, I consider these cases as the exceptions. The greatest number of uterine hemorrhages which take place at different periods of life are not observed in young girls; it is in the uterine period of life that they occur most frequently; especially when those large discharges which endanger life take place. But those oftenest attacked by idiopathic hemorrhages of a slow and continued form are women who have reached the critical age.

Causes of Uterine Hemorrhages.—Uterine hemorrhages can be caused not only by everything that may produce hemorrhages generally, but also by circumstances which act specially on the uterus. They occur principally in women of nervous or sanguineous temperament, particularly if they have had several miscarriages, and if they have used excitants and emmenagogues to excess. Moral emotions, the excitation of the genitalia, the presence of a foreign body, as a polypus, a fibrous or osseous substance, a calculus, a cancerous affection, &c., and, during pregnancy, the adhesion of the placenta after labor, the partial or total separation of the placenta accompanied by inertia of the uterus, and the tearing off of a part of the placenta—an example of which I will describe a little farther on—should also be ranked among the causes of these discharges.

---

* I possess too many facts which prove the contrary to this, to allow me to think this opinion otherwise than very hazardous.

Symptoms.—The quantity of blood lost during menstruation not being the same in all women, it is important to know the symptoms by which the normal flow may be distinguished from the abnormal. The quantity of blood discharged varies according to the disposition of individuals, their manner of living, and the influences which are susceptible of acting upon the whole system, but particularly on the uterus. I must once more call attention to the variations which may occur as regards the quantity of blood at different times, without its being injurious to health. The loss can take place very slowly or very rapidly, or through the too frequent return of the courses: this always constitutes a hemorrhagic flow.

I have observed this kind of hemorrhage most frequently at the critical age; in women or girls of lymphatic temperament; those of great moral sensibility; those given up to debauchery; or in those who have experienced abortions.

The symptoms which precede hemorrhage are generally a feeling of lassitude, vertigo, pain in the head, in the lumbar region, and in the abdomen. Those which accompany the complaint are great debility, paleness of the face, gaping, sighs, dyspnœa, fainting, coldness of the extremities, convulsions, cold sweats, diminution or absence of pulse, &c.

Pregnancy.—There are women who continue to menstruate during the whole, or at least during several months, of pregnancy. This flow might be taken for an abnormal hemorrhage; but this mistake can be avoided, if the time at which the courses are generally seen, the symptoms which ordinarily precede them, the manner in which they take place, and finally the degree of influence acting on the economy, are taken into consideration. Hemorrhages depending upon the rupture of small vessels, or on the separation of a small portion of the placenta, may pass unperceived, on account of the small quantity of blood which may remain effused between the uterus and the coverings of the fœtus. This circumstance is very rare, and it is hardly necessary to mention it.

The symptoms which accompany hemorrhages during pregnancy, are those indicating expulsive contractions, namely, alternate calms and pains in the lumbar and hypogastric regions. The blood, which, at first, during the pains, flowed but slowly, increases very much when they become moderated, the hemorrhage thus continuing its course. The loss can cause death if the labor or the delivery of the placenta is retarded. The nearer the time at which the hemorrhage occurs approaches the moment of delivery, the more abundant, and, in consequence, the more dangerous, it will be. The general symptoms of hemorrhage, and those of uterine hemorrhage in particular, will serve to distinguish the nature of this disease.

Hemorrhage of Women in Labor.—Woman can go through the whole period of pregnancy without meeting with any accident, and yet be attacked with a uterine hemorrhage in the midst of labor. Two causes alone can produce the accident: first, a wound of the uterus, or a greater or smaller separation of the placenta, whether the latter be situated on the sides, on the fundus, or at the neck of the uterus. The symptoms which indicate this hemorrhage are particularly a great feebleness of the pulse, without any other manifest reason, sighing, and coldness of the extremities. When, during the absence of the pain, the accoucheur pushes back the head of the fœtus, or when labor ends, the blood rushes out in great quantities through the vagina; but these hemorrhages, dangerous as they are, may be arrested. Not so with those which are caused by the rupture of the uterus,—they are generally fatal. It is only by the symptoms that we are enabled to distinguish these latter cases, and they are not generally manifested until the blood has escaped into the peritoneum. Authors thus describe these unfortunate cases: in the midst of a violent pain the woman screams, and experiences the feeling of an internal rupture; at the same moment, or a short time after, she feels an inexpressible anxiety, faints, suffers from convulsions, and expires without losing much blood from the vagina.

Hemorrhage after Labor.—When, in women weakened by too early a labor, the uterus is distended beyond measure by the product of conception, or when, in consequence of the prolongation of labor, the remaining strength of the patient is destroyed, and when the afterbirth is expelled very soon after the child, an inertia of the womb will often result. Under these circumstances, the sinuses being open, hemorrhage naturally follows. It will be admitted that the part least susceptible of contraction is that at which the placenta was attached. In fact, this part, the surface of which is uneven, is also strongly engorged; and this particularity may be the cause of a mistake on the part of the physician. Thus the uterus, in contracting more actively in every other part than in the tumefied, the latter will form a hernia in the uterine cavity, and the torn utero-placental vessels comprised in this mass being compressed for the moment, will furnish a very small quantity of blood; but if the contraction is produced by a spasm, the latter having ceased, a hemorrhage, either apparent or latent, will be produced. If the spasm has been of short duration, the utero-placental vessels, compressed for a very short period, will not be able to contract. Hence, the tendency of the sanguineous afflux towards this region persisting, the hemorrhage will be violent, the more so as it is probable that the inertia of the uterus will follow the cessation of the spasm. Should the effects of the spasm be partial; in other words, should the latter affect only the neck of the uterus, the blood will be retained, and a clot will be formed near that part. This constitutes the latent hemorrhage. It may be conceived that a large quantity of blood may be accumulated in the cavity of the uterus, before sufficient signs can lead to the discovery of this affection. The symptoms which will be first manifested are pain, similar to that occurring when the uterus is in the act of expelling a foreign body; but even this symptom may only take place after the quantity has put the life of the patient in danger. Attention must therefore be paid to the general symptoms of hemorrhage.

The placenta may be adherent, but lacerated somewhere,* and an immense hemorrhage may occur, especially as the detachment of the placenta will take place more slowly, because the inertia of the uterus accompanies this condition. This hemorrhage will continue until the artificial separation of the placenta has taken place, and until the inertia has ceased.

Uterine hemorrhage may also be the effect of the want of power in the uterus to contract, owing to the large size of the placenta, the presence of a large clot of blood, or of a solid foreign body. I have said that spasmodic contractions might not act in a general way on the uterus. I will now add that this disease may, by affecting other parts of the body, cause the blood to flow towards the womb, and thereby occasion a violent hemorrhage, which would be promptly fatal, if not combated by vigorous means.

Perhaps it will be found, that what I have said with regard to the symptoms is a little diffuse, considering the work I have undertaken; and yet I am far from having exhausted the subject. But this consideration has not deterred me, believing that what I have said will not be without utility; because, when affections of so dangerous a character are the subjects of examination, the means of diagnosis cannot be too much multiplied. And even were I to have done nothing but copy the symptoms mentioned by other authors, I would still believe in the utility of this precaution, which will at least serve to refresh the memory of practitioners on this very important matter.

Consequences of Hemorrhages.—Hemorrhages, when not arrested, lead to anæmia, a condition which led M. Leyroux† to say, 1st. "That even moderate anæmia, succeeding to hemorrhage, leaves the patient on the verge of instantaneous and unexpected death, and in consequence enlists all the solicitude of the medical attendant. 2d. That the most trifling obstetrical operation may add to this debility a fatal perturbation,—a circumstance which must be kept in mind in determining upon the remedial measures to be employed."

The same Professor, replying to a refutation by M. Toux,‡ who finds that suggestion, if followed implicitly, would lead to consequences opposed to the true principles of the art of midwifery, and to the rules laid down in the immortal work of Baudelocque, in which it is said that inactivity in grave cases is a bad example to give to certain physicians, already too much inclined to this practice—M. Leyroux, I repeat, in his second article, expresses the wish that what he had said should not be understood as a rule to be followed, except in rare cases, of which he has collected and published a certain number in view of their practical utility.

---

* Case of Mrs. C.

† Gazette des Hôpitaux, 22de Decembre, 1855.

‡ Gazette des Hôpitaux, 22 Janvier, 1856.

I agree in many points with the distinguished physician of the Hôtel Dieu; but I cannot but object to several of his principles on this subject. I will content myself by giving several cases to point out the differences of our respective views. They will establish the rules which guide me in my practice.

Case 1. I was called, in 1845, to deliver a negro woman, slave to Mrs. L——, living in Havana. I found with this woman two young physicians, who, notwithstanding all the means employed by them, even to the use of the forceps, could not cause the labor to advance. The head was already in the lower basin. The abdomen being very large and lobulated, made me think that the pregnancy might be double, and that the two fœtuses might, by being engaged together, have occasioned a kind of wedging.

I examined the condition of things as carefully as the state of the genital organs, slightly tumefied, would permit, and I could only discover that the head was in a good position. In passing my hand over the abdomen, in the absence of pain, I felt, in the hypogastric region, a firm and circumscribed body, occupying the left iliac fossa, and resting on the pubis. This tumefaction, which felt like the head of a fœtus, was very distinct from that felt in the vagina. This reaffirmed me in my first opinion, that the pregnancy was double. I caused this body to be sustained during several expulsory efforts, but labor did not advance any faster than before.

I then decided on reapplying the forceps. After great traction-efforts the head was born. The tumor appeared to be dragged along with the head, for it was now hardly felt. Two fingers being introduced into the vagina, I was enabled to feel the head of the other fœtus pressed against the neck of the first. Labor having been already too long to justify the belief that the fœtus, whose head was already out, was alive, and the woman, also, saying that for several hours she had not felt the least motion, I thought it my duty to concentrate all my efforts on the head already born. My traction caused the second head to present itself. I discovered that my efforts would no longer be useful, and decided on applying the forceps to the second head. The application of the instrument, which I had thought would be very difficult, was, on the contrary, tolerably easy. The neck of the first fœtus, very narrow, was situated in the lower part of the vulva. I therefore drew out the head of the second fœtus. From this moment I was enabled to ascertain that the necks of the two fœtuses were united at their bases, which left no room to doubt that I had to deal with a monstrosity, and, consequently, that the fœtuses must be drawn out together. After uniting the two heads, and covering them with a piece of fine linen, I applied moderate and methodic traction-efforts, by which the birth of the bodies of the fœtuses was obtained. In a few minutes more the afterbirth was expelled, and this being succeeded by the discharge of a quantity of blood, I concluded that the uterus was in a state of inertia. After so long a labor, after such immense efforts on the part of the uterus to expel these fœtuses, atony of this organ could scarcely fail to result. I made frictions on the hypogastric region and titillations on the neck; I compressed the abdominal aorta: nothing would arrest the hemorrhage. It was then that for the first time I thought of resorting to iodine injections, with a view to arrest puerperal hemorrhage; a treatment with which I had succeeded so well in combating those arising from other causes than gestation. I sent to a druggist residing near by for some tincture of iodine and a glass syringe with a long syphon terminating with an olive-shaped bulb pierced with several holes. I then injected into the cavity of the uterus half an ounce of the tincture of iodine, mixed with an ounce of water. The liquid was immediately rejected by the uterine contractions, and the uterus from that moment took on the condition natural after difficult labors. The patient was placed on tonics, and half a cup of broth every three hours. She fell asleep, and when she awoke said she was very well, but felt fatigued and weak. The lochial discharge was small, but of proper quality. From this moment nothing extraordinary occurred, and, with the exception of the weakness, which lasted some time, the consequences were as natural as those which usually result from artificial labor.

The fœtuses were united in front from the lower part of the neck to nearly the point of insertion of the umbilical cord. With this exception, each fœtus was perfectly formed: the genitals, the extremities, and the heads were natural. There was no deformity in the vertebral columns. The necks appeared to be united just above their base. Immediately underneath, the clavicles of each fœtus could be distinctly felt, but from this point to the lower part of the chest there was a complete adhesion of the true ribs. This adhesion, which appeared to be in the cartilaginous parts, presented a groove formed by the approximation of the convexities of the ribs, which extended to the lower part of the chest, and was exactly alike on both sides, and acted in such a way as to separate the two fœtuses as if to disjoin them. No motion could be obtained, which would not have been the case had the attachment been in the soft parts.

The placenta was visibly double, but united by means of a firm tissue, which was discoverable on the external surface by a prominent raphé. The placenta was oblong, but a little turned in at the centre of the two sides, towards the point of junction of which I have spoken. The points of insertion of the cords were at a short distance from each other.

This monster, which, according to Geoffroy de St. Hilaire, belongs to the Autositary class, was too interesting not to be made known. But, believing that the offer made by a professor of the medical school of this city to make its dissection would lead to more useful results than I could myself obtain, I gave it up to him, but, unhappily, all my efforts to obtain the result of his examination, or the fœtus, have been useless.

I trust that I shall be excused for the length to which these remarks have been carried, as well as for some of the details offered. These, I know, are foreign to the end proposed in these pages, but I could not resist the desire to make known this interesting case.

Case 2. Mrs. M——, 30 years of age, of a lymphatico-nervous temperament, had suffered during the last ten years (since the time of her only delivery), from a disease of the liver, when my professional advice was requested. The condition of this lady made me fear for her life; but by assiduous attention a degree of amendment, which I did not dare to hope for, was obtained. She so far recovered her health as soon to become pregnant. This new condition gave me great fears, more particularly as her father, Dr. A——, informed me that at her first labor he had considerable difficulties to overcome on account of the smallness of the transverse diameter of the lower basin, caused by the near approximation of the tuberosities of the ischia. But happily the smallness of the fœtus overcame this obstacle; very slowly, it is true, but without accident. A few months after, Mrs. M—— again became pregnant, but continued to be feeble. I hoped that this weakness, by being communicated to the fœtus, might prevent its full growth, and that by that means the labor would, like the last, terminate happily. The term of pregnancy passed over without any occurrence worthy of remark, but it was not thus at its close. I sent for a medical friend to assist me. After having ascertained the existence of the pelvic deformity of which I had been told, we found that the head was in the first position, and was very large and firm. We agreed that since the lady was very anæmic, and the strength she possessed would be insufficient to terminate the labor, and since, besides, it was necessary to prevent the loss of blood, we should apply the forceps as soon as the occasion would permit. This occasion did not present itself until that period of labor when a vigorous and well-constituted woman would have expelled the fœtus with one pain. In the meanwhile the patient grew weaker as well as cold at the extremities. These symptoms, combined with the occurrence of dyspnœa, made me believe in the existence of a hemorrhage. I sent immediately for some tincture of iodine and a syringe; the forceps were applied and a dead fœtus was extracted, followed by a considerable quantity of blood. The patient took two spoonfuls of brandy, and without losing time I introduced my hand in search of the placenta, which adhered but slightly. This manipulation was not followed by the contraction of the uterus. The iodine arrived, the injection was given at once, and the hemorrhage and inertia ceased.

I continued to combat the anæmic condition with tonics and broth; I also prescribed an etherial potion. I would be obliged to repeat what was mentioned in relation to the preceding case, if I wished to report what followed the labor of Mrs. M——, and I shall content myself with referring my reader to it, adding, however, that for twelve days after, I was obliged to draw off her urine three times a day, the bladder being too feeble to expel it.

Case 3. Mrs. C—— had given birth to a large child about eleven o'clock of the morning of the day on which I was sent for. I found in attendance two distinguished physicians of Havana. They having requested that a third physician should be sent for, I was, by chance, selected, and in a short time I reached the patient. I was told by the attendants that a considerable hemorrhage had followed the expulsion of the fœtus, and that they had in vain tried to remove the placenta, and cause a cessation of the inertia of the womb. Many means had been resorted to, but all ineffectually. One of the physicians continued to compress the abdominal aorta, notwithstanding which the blood continued to flow. Mrs. C——, of a lymphatico-nervous temperament, was in a most decided state of anæmia; she had frequent convulsions, dyspnœa, syncopies, cold sweats over the body. Her breathing was often accompanied with rattling. The pulse was very feeble and frequent, and disappeared at every fainting fit. I proposed injections of iodine, and, as the time required to obtain the medicine appeared to us very long, it was thought necessary to sustain her strength by giving her brandy or rum. I therefore made her take two spoonfuls, and, as the decision of the consultation was, that the placenta ought to be removed, I introduced my right hand guided by the cord held in the left. I encountered that part of it which had already been detached by one of the attendants. I continued to detach it, and six minutes had not elapsed before the delivery took place. But all the means employed to cause the womb to contract still proved useless; the uterine hemorrhage continued. The compression of the aorta was persevered in; alcohol, as well as linen steeped in water and vinegar, were applied to the hypogastric region. The tincture of iodine and the syringe having at last arrived, and being certain that no change for the better had taken place, the injection was resorted to in the same way as in the preceding cases, and the result was equally successful, causing the cessation of the hemorrhage and of the uterine inertia.

After having caused the patient to take two more spoonfuls of rum, and placed her in bed, I caused her to be wrapped up in hot flannels. Bottles of hot water were put almost in contact with her body. She was made to breathe ether or rum, and during the fainting fits she was directed to inhale ammonia. Her pulse was of incalculable frequency, very feeble, and at times ceased to beat. Notwithstanding symptoms so grave, I was not discouraged. The body of the patient was sprinkled over with starch and quinia. Half an hour after taking a spoonful of rum, she was given an equal quantity of syrup of ether; which was succeeded in half an hour by three spoonfuls of broth, and as much wine and water as she desired. One of the physicians having remained near the patient, it was observed that, after three hours of incessant care, she slept for ten minutes; her breathing during this time continued to be the same as before, hence the patient appeared to be rather in agony than asleep. She awoke with a start, as if suffocating; but the symptoms which followed this sleep did not appear to me to be so grave; the pulse became a little stronger, the fainting fits were not so frequent, and the patient could succeed in taking longer, and consequently less frequent inspirations, as she was often recommended to do. The remedies were continued as before, except that they were suspended during frequent little naps.

When I was satisfied that the patient was somewhat better, I asked for the afterbirth, which had been kept for me. I observed that the placenta was enormous, with a rent of about four inches long and a quarter of an inch deep, situated at about half an inch from the point of insertion of the cord. The latter, which was not less than half an inch in diameter, was hardly nine inches long. If we consider that the part remaining with the child ought to be about three inches, there would have still required twelve inches to make it of normal length.

After this examination, I asked myself to what the hemorrhage and inertia of the uterus, in Mrs. C——, could be attributed. I found a partial separation of the placenta, an extensive laceration of it, a very short cord, and an inertia of the uterus. As the hemorrhage followed the fœtus immediately, it could not be attributed to the partial separation of the placenta. The laceration on the contrary, appeared to have furnished the lost blood, but was not itself the consequence of the traction made during the extraction of the placenta; because, as I have said before, the hemorrhage occurred during the expulsion of the fœtus. I believe, therefore, that the laceration was the effect of the tension on the cord during labor: the insufficient length of it authorizes me to so believe. As to the inertia, it was, perhaps, the effect of the large size of the placenta; but the great loss of blood caused an asthenic condition, to which I attribute the continuance of this condition of the uterus.

Let us revert to our interesting patient, whom we left a little better. On my return, I found her still breathing too frequently; the fainting fits returned occasionally, but the sweats were less copious and less cold. The pulse was a little stronger, but still very frequent (150 a minute). The naps were a little longer, and less disturbed. The same medicines were continued. This state of uncertainty persisted during 72 hours; but after this the amendment of all the symptoms raised our hopes. The patient asked to see her child, whom she had not as yet inquired after. The stimulants were discontinued, but half a cup of broth was given every three hours, as also a decoction of dog-grass and of the capillary plant, as well as a little wine and water when she desired it. The milk fever was slight. The patient, continuing to improve every day, was allowed the diet suitable to women soon after delivery. The lactate of iron was prescribed and persevered in for two months. Three months after, the patient was still anæmic, and could take but little exercise, yet she gradually improved, and is now in her usual state of health.

In this, as in the preceding cases, the lochia were such as might be expected from the anæmic state of the patient. This, I believe, is a proof of the innocuity of the remedy which, besides, is so certain in its effects.

Are the remedial effects of iodine due to astringent or to exciting properties? If the action of astringents is due to a sort of puckering of the parts with which they are placed in contact; and if those of excitants, instead of producing the effects mentioned, stimulate the organic tissues, and render them more prompt in the exercise of their functions, there will naturally result from the latter an acceleration of the vital phenomena which, in the cases mentioned, were very much enfeebled by the asthenic state of the patients. Now we must admit that hemorrhages are arrested by virtue of an action substituted for the natural one, itself the product of excitation, which assumes the place of the exhausted vital forces, thereby provoking the contractions of the uterine tissues, and closing the vessels in such a manner as to prevent the escape of a large quantity of blood, and at the same time recalling and re-establishing the circulation to a degree commensurate with the strength of the patient.

I ought, perhaps, to have given a history of the hemostatic remedy here recommended, while describing the facts which have successively fallen under my observation. But I preferred to relate the most important cases, and to close with a few words on those which I consider so simple as hardly to merit being mentioned. For example:

A patient applies, laboring under chronic uterine hemorrhage, no matter how caused, whether by an organic affection or a functional derangement.

I place her under the following treatment: The woman is put upon an inclined plane, prepared across the bed by means of the back of a chair turned upside down and covered with pillows. The feet are placed on chairs, and the patient is seated on the edge of the bed, or rather on a pillow, which terminates the inclined plane. After having covered her with a sheet from the breast down, I direct her to raise up her clothes, so as to remain covered by the sheet alone. I then grease the trivalve speculum (a modification of Charrière's), and introduce it in the ordinary manner. Then I surround the instrument at its base with the edge of the sheet, which is crossed underneath, and tucked under the seat of the patient. I give the handles of the instrument to the patient herself to hold. By means of a candle I examine the state of the os uteri. The latter, which is situated in the middle of the instrument, is cleaned of the mucus which generally adheres to it. It then presents its orifice ready to admit the end of the syphon or the syringe. An instrument of this kind large enough to contain about an ounce and a half of fluid is selected for this operation. I have affixed to it a silver probe about five inches long; the end of the probe is a little enlarged, like that which is used to cauterize the Eustachian tube. The syringe is filled with a mixture of tincture of iodine and water, in the proportion of one-third of the former to two-thirds of the latter. The end of the syphon is pushed up, as far as possible, into the cavity of the uterus, and the injection administered with some degree of force. The liquid comes out of the cavity of the uterus as fast as introduced, and is soon all expelled. The uterus is ascertained to have contracted from the circumstance that mucus is very often attached to the end of the instrument in the form of a rather large ball. The woman experiences occasionally a sensation of heat, and sometimes a slight pain at the hypogastric region. The injection is repeated, if necessary, at the end of three or four days. The next day the hemorrhage is found to have lessened; it diminishes the following day, and generally disappears on the third.

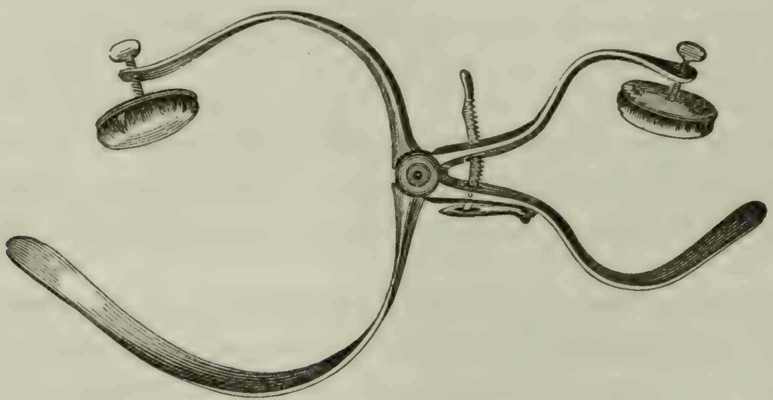
I have resorted to this method of treatment more than a hundred times, and found but one case to resist it. This patient was an old lady, who had had uterine hemorrhage for many years. The innocuity of this method is too well exemplified by the preceding cases to render other facts necessary.

Having now proved the great usefulness of this method, to which I have no doubt the three individuals, whose cases are mentioned above, owe their lives, does it not become obligatory upon every accoucheur to have in his instrument case some tincture of iodine and a syringe, with a view of resorting to injections in cases of puerperal hemorrhage?

ART. VI.—*An Account of a New Tourniquet.* By S. D. GROSS, M.D., Professor of Surgery in the Jefferson Medical College of Philadelphia.

A great variety of tourniquets are before the profession. Indeed, one would suppose that there was no end to the invention and modification of such instruments. A large volume would hardly suffice for their delineation and description. Every one is acquainted with the tourniquet of J. L. Petit, one of the earliest, most simple, and most perfect of the old instruments of this kind, and which a modern surgeon eulogized by saying that it was insusceptible of improvement, and that no other tourniquet could ever take its place. This prophecy has proved to be untrue. The instrument of Petit, notwithstanding its many excellencies, is not always easy of adjustment, or of convenient management, and, on more occasions than one, it has suddenly snapped asunder in the midst of an operation, much to the detriment of the patient and the horror of the surgeon. It may be said that such an occurrence is due more to the materials of which the instrument is composed, than to the manner of its construction; this may be so, and yet the fact does not invalidate the force of the objection. No good instrument should be liable to such a contingency. The last few years have supplied us with the tourniquets of Signoroni and Skey, two valuable instruments, now much in vogue, especially in Europe.

The tourniquet which I have recently invented, and of which the accompanying cut is an accurate representation, possesses, if I mistake not, decided advantages over any now in use; first, in the facility of its application; secondly, in the amount of pressure which it is capable of exerting; thirdly, in its ready adaptation to limbs of different sizes; fourthly, in the circumstance that it makes pressure only at two points, that is, over the artery and at the point immediately opposite to the artery; and, lastly, the facility with which it may be slackened or removed at any stage of the operation. With a slight modification, the instrument could be readily adapted to the femoral artery as it emerges from beneath Poupart's liga-



ment, or even to the external iliac just above this ligament, in amputation at the hip-joint, and also to the axillary artery, in disarticulation of the shoulder-joint.

By a reference to the cut, drawn by Mr. Daniels, it will be seen that the instrument is composed of two blades, differing in the degree of their curvatures, united by a screw, and regulated by a rachet. Each short blade is provided with a pad, capable of being worked by a screw, and designed to rest upon the artery which it is intended to compress. By this arrangement two tourniquets are produced: a large one for the thigh, and a small one for the arm, or the thigh of a small subject. I will only add, that the instrument was manufactured at my suggestion by Mr. Kolbe, an eminent cutler of this city.

ART. VII.—*On the Evil Effects of Marriages of Consanguinity.* A Paper read before the Louisville Medical Club, by S. M. BEMISS, M.D.

. . . "They breed in-and-in, as might be known;
Marrying their cousins, nay, their aunts and nieces,
Which always spoils the breed if it increases."

SOME facts illustrating, in a remarkable degree, the evil results of marriages of consanguinity, fell under the observation of the writer several months ago, and determined him to collect others of a similar character, and endeavor to arrange them in such a form as to warrant some definite conclusions upon this important subject. The collection of original facts connected with these marriages is a matter of difficulty and delicacy, and oftentimes as disagreeable as it is difficult and delicate. We can seldom gain information in reference to their history and results from any source so exact and reliable as from the family itself; and such is frequently the secrecy observed by relatives in regard to these revelations, that we are unable to obtain statistics sufficiently minute to afford a basis for positive conclusions. Such statistical information as my paper contains may, however, be relied upon as strictly correct; for I have at once rejected all presented to me in such a manner that I was not able, from my knowledge of the informant, to indorse as entirely to be relied upon. One other difficulty met with in a comprehensive presentation of this subject, is the poverty of its literature; for, though long and able treatises have been written upon the best methods of preventing or arresting deterioration of domestic animals, by the introduction, from time to time, of new crosses into their respective breeds, yet the question of degradation of numerous families of the human species, by neglect of similar counteracting influences, has rarely been a subject of literary or medical discussion. Nevertheless, the opinion is strictly tenable, however humiliating it may be to our pride, that the rules which govern the procreation of species are not essentially different in man and domestic animals. This want of medical research upon the subject in question, does not proceed from the novelty or recent origin of the truth just stated, for Rilliet has well observed, "No one can claim priority of the idea, when its antiquity is such that we cannot trace it to its source."

In primitive ages, marriages between near blood relations were occasionally necessary to the perpetuation of the race; but it is very probable that their abuse led to the early enactment of laws to establish the degrees of consanguinity, beyond which marriages might be consummated without fear of perverted sanitary condition in the progeny. It is by no means an ascertained fact of history, that these early laws of incest owed their origin to physiological observations; but it seems to me entirely reasonable to infer that, witnessing the pernicious effects of such unions upon offspring, first suggested the establishment of laws to prevent the continued repetition of the evil. Those were ages in which physical force had not been superceded by the inventions and mechanical appliances of the present day; and the power of a community was measured by the amount of muscle under its control. Legislators, who contended that "walls of men were better than walls of stone," would certainly exercise the most sedulous care to maintain, so far as practicable, the physical integrity of their people. In further proof of this inference, Socrates, when inveighing against the incestuous marriages that were sometimes practised at Sparta and Athens, says, he regards them as "prejudicial to the healthy propagation of the species."—(Rilliet.)

The laws of Moses interdicted marriages within the third degree of relationship. The Roman laws were more strict in this respect in former than in later times. Plutarch says, "In ancient times the Romans abstained from marrying their kinswomen in any degree of blood; as they at present forbear their aunts and sisters. It was late before the marriage of cousins-german was dispensed with."—(Janeway.) The Catholic Church, at an early period, opposed itself to blood alliances. Pope Gregory the Great, in proscribing such marriages, gives, like Socrates, a physiological reason: "Experimento didicimus ex tali conjugio sobolem saccrenere non posse." —(Rilliet.)

References may be found to the unfortunate influences of marriages of consanguinity upon offspring, in various medical works of the previous and present century,* but no facts are adduced to support the conclusions of the authors; nor have any statistics, illustrating these effects, been presented to the profession, so far as I am aware, except some facts included in Dr. Howe's valuable reports on idiocy.

---

* Mason Good, Combe, Barlow, &c.

By much labor, I have obtained statistical accounts of thirty-four marriages of consanguinity. Of this number, twenty-eight were of the third degree of the civil law, or between first cousins; and six were of the fourth degree, or second cousins. Of the total number of marriages, twenty-seven were fruitful and seven sterile. The twenty-seven fruitful unions, produced one hundred and ninety-one children. In only thirteen of these marriages, was the sex of the offspring reported, giving forty-nine males to forty-two females. Of the twenty-eight marriages of the third degree of relationship, twenty-three were fruitful and five sterile. Of the six marriages in the fourth degree, four were fruitful and two sterile. In both these latter instances of sterility, the female was the product of a marriage of consanguinity. The relative proportion of children to the total number of marriages was as 1 to 5·6. The average fecundity to each fruitful union was seven and a slight excess. The average births to each fecund marriage in the third degree of kinship was 6·87, nearly. The average number of births in the fruitful unions of the fourth degree, was 8½.

Of the 192 children resulting from these marriages, 58 perished in early life. In 24 of the 58 deaths, the causes are stated as follows: of consumption, 15; of spasmodic affections, 8; of hydrocephalus, 1. Of the 134 who arrived at maturity, 46 are reported as healthy; 32 are set down as deteriorated, but without absolute indications of disease; and 9 are returned without any statement as to health or condition. The remaining 47 all possess such abnormities as to render them the subjects of particular observation. These are classed as follows: 23 are scrofulous; 4 are epileptics; 2 are insane; 2 are mutes; 4 are idiots; 2 are blind; 2 are deformed; 5 are albinoes; 6 have defective vision; and 1 has chorea.

In point of fecundity, these marriages probably present results not differing materially from the average fertility of marriages in the rural districts of the West. I do not know of any rules by which to determine the average number of births to a marriage among our country population, but I do not doubt they will equal in fruitfulness the most prolific portions of Europe. In some villages of Scotland, the proportion of births to a marriage is stated to be seven. (Cy. Pract. Med.) The parties to the above intermarriages were, with one or two exceptions, of rural habitation; were, in many instances, remarkable for mental and physical development; and were surrounded, in a large majority of cases, by circumstances of living calculated to insure the utmost degree of fruitfulness and prolonged life.

These statistics, then, I am satisfied, exhibit results on this account more than usually favorable to the offspring. In support of this opinion, we may contrast this report with Dr. Howe's observation of 17 marriages of blood relations, in his report on idiocy. These 17 marriages gave "birth to 95 children, of whom 44 were idiots, 12 scrofulous and puny, 1 deaf, 1 dwarf, 58 in all, of low health or imperfect, and only 37 of even tolerable health." An unusually large number, over one-fifth, of the marriages in my report, were sterile; and I am not aware that this can, in any instance, be imputed to other causes than the influence of consanguinity. Some of the parties to these sterile unions have had excellent corporeal and mental endowments, and have arrived at unusual longevity. In four instances reported to me, females descended from these intermarriages have proved barren without exhibition of constitutional defect. In two of these instances, they had married relatives; in the other two, they married without the circle of family affinity.

I shall not attempt to offer any hypothesis as to the active cause of sterility in these cases. It is a subject in reference to which physiological reasoning has, up to the present time, furnished no satisfactory results. We cannot force our researches into the hidden penetralia of nature, and there discover how her processes of reproduction are so interfered with, as to render these intermarriages disastrous to their issue; nor by what means she avoids these unfortunate results, by rendering many such unions fruitless. We must leave the development of this subject to the future physiologist; if, indeed, the sea of human knowledge shall ever extend its limits in this direction.

I come now to speak of the defects of the offspring, in the cases alluded to. I have no doubt that the number of cases of scrofula is larger than the same number of descendants of marriages of consanguinity would ordinarily exhibit. This predominance of scrofula probably results from the fact that, in three of the families, there is reason to suspect the previous existence of strumous taint. These families alone yield sixteen cases of scrofula. This fact, and the large proportion of the deaths ascribed to phthisis, demonstrate the truth of Dr. Barlow's observation, that the tuberculous diathesis "shows itself, in the greatest intensity, in the offspring of marriage between relations, in whose family the taint has already existed."

I have not obtained sufficient information to enable me to describe the particular manifestations of scrofulous diathesis in each individual case; some of them are, however, represented as scrofulous ophthalmia.

Rilliet places epilepsy first in order of frequency, of the diseases of the nervous system, to which the products of family intermarriages are most liable. My report comprises four epileptics; the father of one of whom was likewise the result of a marriage of cousins. Eight of the deaths are ascribed to spasmodic affections, and four of this number are specified as epilepsy.

I have no information in regard to the degree or character of mental aberration of the two insane subjects, contained in the enumeration. The two cases of muteism were congenital, and will be again referred to, as will also the four cases of idiocy.

I am not informed whether the two cases of blindness were congenital, or produced by causes occurring after birth; they, however, both occurred in the same family, and were, in all probability, congenital.

The cases of deformity were, in one instance, curvature of the spine; in the other, malformation of an arm. The six cases of defective vision, were myopia, and the results of scrofulous ophthalmia.

It now remains to notice the most remarkable of all the abnormities of offspring my report presents. I refer to albinoism. Absence of the pigmentary cells of the integument and coats of the eye, is, undoubtedly, like most other deviations from the normal type of reproduction, a mark of deterioration. But albinoism sometimes occurs where there is no cause or condition, apart from its own manifestation, to lead us to infer degradation; and, having once occurred in a family, the influence of maternal emotion might have much to do with its repetition. It may exist in connection with a moderate state of corporeal health, and a striking development of intellectual sprightliness, as in some of the subjects of my report. In domestic animals, it is so well understood to indicate impaired value, that connoisseurs in horseflesh reject such animals as have absence of coloring pigment in the hair and tegumentary tissues. M. Siécle's* observations upon albino cats led him to conclude that it was, in this animal, uniformly attended by absence of the auditory sense. No defect of hearing has accompanied its presence in the subjects of my report. Almost all the albinos here included are nearsighted. Esquirol also mentions an albino who was certainly myopic, and another whom he supposed to be. I am not aware that any author has spoken of this condition as the result of in-and-in marrying; but Esquirol states, that wherever we meet with albinos, there we also find the goitrous and idiotic; and these latter are known to be common products of marriages between kindred. From Dr. Howe's investigations upon this subject, it is safe to infer that idiocy is oftener the result of this cause, than was heretofore suspected. In Dr. Howe's report, seventeen out of three hundred and fifty-nine idiots, were found to be products of marriages of consanguinity. If the same ratio held good throughout this country, there would have been, in 1850, seven hundred and forty-seven idiots in the United States, the offspring of parents connected by blood-ties.

Congenital deafness is another impairment common to the products of marriages of this character. M. Meniese, physician to the Imperial Institute for the Deaf and Dumb, at Paris, considers this infirmity, when congenital, more often referable to this cause than to any other. My inquiries have not, thus far, led me to a similar conclusion; but its great frequency among the offspring of such marriages, cannot be doubted. A writer in the National Intelligencer, some years ago, stated, that "a great proportion of the inmates of the asylums for the deaf and dumb, the blind and idiotic, are found to be the product of the intermarriages of cousins." Then, if we add to the 747 idiots, the mute, epileptic, blind, and insane products of these marriages, computing the number at the very lowest probable figure, and sum together the whole, we shall have, resulting from this physiological error in the United States, not less than *two thousand* victims, whose conditions are, for the most part, irremediable; besides a much greater number suffering from other impairments of constitution entailed upon them by the same cause. Truly,

---

* London Medical Times, vol. 18, p. 128.

> "Democritus did well to laugh of old:
> Good cause he had, but now much more;
> This life of ours is more ridiculous
> Than that of his, or long before."

I am aware that many circumstances may produce defective issue besides the influence of consanguinity, such as the habits of the parents, and their particular condition at the period of approach. Maternal emotion or constitutional derangement during pregnancy, may also frequently determine the character of the offspring. But these accidental influences are not more likely to prevail in marriages of consanguinity, than in those of a different character; while the number of departures from a healthy standard, in the issue of these marriages, is incomparably greater than in those where no such connection exists.

To prove still more certainly that these various impairments of offspring are due to the influence of too frequent admixture of the same blood, we have only to associate the cases in my report in the various degrees of relationship, and observe if the proportion of accidents to the offspring is increased with the degree of relationship. To arrive at this point, I shall divide the productive marriages in my report into three classes: those of the fourth degree, or between second cousins; those of the third degree, or between first cousins; and those nearer than the third degree, as between double cousins, or between cousins, themselves the descendants of cousins. The table will stand thus:

Degree.	No of Marriages.	No. of Children.	Died.	Diseased.	Deteriorated.	Healthy.	Unknown.
4th degree, . . .	4	34	8	6	10	10	
3d degree, . . .	19	130	37	31	17	36	9
2½ degree, . . .	4	27	13	5	6	3	

It will at once be seen, that the percentage of calamitous results to the progeny is largely increased as the relationship becomes closer. I have also accounts of two marriages in the second degree, or between uncles and nieces, but they have not been consummated sufficiently long to determine their results.

I now propose to notice briefly the circumstances calculated to modify the effects of marriages of consanguinity, either in lessening or aggravating their evil results. That these marriages are sometimes practised without apparent ill consequences to the offspring, is obvious to all whose attention is drawn to the observation of these points. Under what circumstances, then, may they be expected to be followed by healthy offspring? Is it when, as Mercatus has advised those entering upon matrimony, the parties are of opposite temperaments? I incline to the opinion that this, with some other circumstances to be mentioned, has great influence in determining the results. Baillou has remarked, that "parents transmit to their children disease as well as wealth, but the former much more certainly than the latter." (Stillé's Pathology.) This remark is probably equally true with regard to points of temperament and types of physiological idiosyncrasy as to predisposition to disease. In truth, predisposition to disease may often consist in a hyper-manifestation of certain constitutional peculiarities. Nature seems to have designed that the conditions and tendencies of human organisms should be kept very nearly in a state of equilibrium. This equipoise, necessary to the healthy condition of man, upon whatever inexplicable cause it may depend, may be readily disarranged by giving undue predominance to any particular constitutional phase. The slighter deviations from a normal mean would constitute individual or family peculiarities; while more marked perversions become morbid manifestations, and infirmity results. As in the moral man none are exempt from the taint of sin, so in the physical man each individual of our race has his obliquity towards disease,—generally, perhaps uniformly, towards some particular disease. It is then reasonable to expect that when two individuals marry, who possess the same morbid proclivity, their offspring will exhibit that identical divergence, but in a much more marked degree. Thus, undoubtedly, have originated many family peculiarities, perverted tastes, and morbid diatheses. The circle of individuals thus constituted sometimes includes large communities, as is observed in reference to the disease denominated Plica Polonica, which attacks the Polish and spares the Russian peasant living under external circumstances equally liable to produce the malady. (Pritchard.) There is no better mode of maintaining this happy mean of temperament than by admixture of types of constitution possessing no family identity. We may possibly, and justly, think with Benton, that "it hath been ordered by God's especial providence, that in all ages there should be (as usually there is), once in 600 years, a transmigration of nations, to amend and purify their blood, as we alter seed upon our land; and that there should be, as it were, an inundation of those northern Goths and Vandals, which overran, as a deluge, most parts of Europe, to alter, for our good, our complexions, which were much defaced with hereditary infirmities, which, by our lust and intemperance, we had contracted."

History presents some instances altogether antagonistic to the doctrine of degradation from this cause. Especially does Sacred Writ offer some cases, of such remarkable emphasis, that it would be extremely difficult to explain the non-sequence of deterioration of offspring, if the rule by which our contemporaries are measured were equally applicable to them. Abraham, Isaac, and Jacob, all married wives connected to them by blood-ties, and yet they were the chosen progenitors of a privileged and highly gifted people, and nothing pertaining to their history suggests the idea of immediate degeneration of progeny. A very learned divine has explained to me this seeming contravention of a natural law, by the supposition that, as the Jews were a people chosen for an especial purpose, they existed under abnormal conditions, and all influences ordinarily enuring to their prejudice were providentially countervailed. This presumption is certainly plausible; and as we see the same people protected in future trials by miraculous interposition, the argument may be entertained without violence to reason. But without presupposing the exercise of supernatural influences, the apparent inoperativeness of this law of degradation by in-and-in marrying, in the above instances, as well as in those of Adam's sons and daughters, may be explained by the incomparably superior endowments of these primeval denizens of our globe. Those were days in which man dwelt as it were in the presence of his Creator; "when," as Schlégel observes, "God familiarly taught man the rudiments of speech, as a parent teaches a child." If those ancient patriarchs were found worthy of these high honors, and if they could ordinarily attain to a longevity many times beyond that to which our most perfect organizations can now arrive, how immeasurably superior to ourselves must we suppose them to have been in vigor and excellence of constitution. They were thus enabled to propagate the race by alliance with their own blood, with no such baneful results as similar causes now call forth. But it is not necessary to believe that such unions were even then exempt from pernicious effects, but in their perfect condition of corporeal organism, and freedom from predispositions to disease, the deterioration of race resulting from this cause was probably exhibited in the lowering of the vital powers and simple abbreviation of life, rather than in demonstrations of the diseases of the present day. We still see these very same circumstances of constitution and condition counteracting, to a limited extent, the evil tendency of this cause. In the early settlement of the West, the inhabitants were, for security, gathered into communities of greater or less magnitude, separated from each other and from the older States by miles of dangerous wilderness. It was natural that each community should be composed in a great degree of blood relations, since, in forming companies for migration, the several branches of one family would often combine. When in their new homes, a scarcity of marriageable material would often render unions between relations expedient, and afterwards, these covenants, arising at first from necessity, became a habit, often convenient in some respects, since it preserved estates within the family circle. But these pioneers were a hardy, robust people, living much in the open air, and undergoing vigorous exercise; having for their aliment wild game and the fresh products of a genial soil, and not addicted to any habits calculated to impair the integrity of their well-endowed constitutions. We would naturally expect conditions of life so favorable to the sound development of the bodily organism to overrule all counteracting influences, and it might prove almost the exception, when marriages of consanguinity gave origin to defective issue. Not so, however, among the valleys of the Alps, where, from the barriers formed by impassable mountains, the same seclusion of communities and frequency of family alliances are found to exist. There, with impure air, bad diet, and constitutions infected for generations with hereditary taints, it proves an exception when a healthy child is born from parents of the same blood. There we find goitre, cretinism, scrofula, albinoism, and muteism in their most aggravated forms.*

In this country, the Jews, whose religion forbids them to marry except with their own race, are often driven, from the scarcity of marriageable subjects in their communities, to form alliances with their own kindred, and a physician of distinction informs me that they are peculiarly liable to strumous taints and congenital defects. In this connection it may also be of interest to mention Bayard Taylor's observation, that the Jews of America are far inferior in personal appearance to the Jews of Palestine. These same social conditions and connubial exigencies exist also among the free colored inhabitants of the Northern States, and may account for the increased ratio of deaf and dumb, blind, and insane, found in this population. (Comp. U. S. Census, 1850, p. 77.)

Wherever in-and-in marriages are practised under circumstances of life calculated to annul their tendency to deprave the offspring, we see a prominency given to certain points of physiognomy, which constitute striking marks of resemblance, not only evinced in families, but sometimes found to pervade a numerous nation. Thus Hippocrates states that the Scythians all resembled each other, although they were different in appearance from all other people. The Jewish face has, under favorable circumstances, retained its characteristics from the earliest ages to the present day.

---

* It may be proper to remark, in this connection, that there is within a few miles of this city a child, the issue of cousins, whose cranial bones have undergone the rachitic softening so frequently observed among the cretins and idiots of the Alps.

History will, I think, sustain the opinion that the most vigorous people have sprung from the ingrafting of nations differing in constitution and temperament from each other. I believe, with an observing writer, that the extraordinary activity and energy of the American people are due to the composite nature of their blood. This rule, however, seems subject to some qualification; for there certainly exist strong reasons to believe that matrimonial alliances between the greatest possible contrasts to be found on our globe, the negro and Caucasian races, for instance, are not favorable to the most vigorous propagation of species. I do not look upon mulattoes as hybrids, but think they exhibit less of vigor and vital force than are found in crosses where there is less contrast. Mr. Alexander, perhaps one of the most experienced cattle-breeders of the world, has observed that the cross between the finest and coarsest breed of cattle is far inferior to that between the best blood and a medium between that and the worst.

The prevention of the serious evils I have under consideration, which of course consists in the prevention of in-and-in marriages, is a point which I do not think is to be attained by enactments of civil laws bearing upon the subject. It would prove equally difficult to convince either legislators or communities that there could be a necessity for going beyond the requirements of the Levitical law. It is, however, the duty of physicians to labor unremittingly in the collection of facts pertaining to this subject, and to submit them to the public. A reasoning man will refrain from a connubial association likely to inflict irreparable injury upon his offspring, after he has learned that such is the fact; and church governments will forbid their clergy to celebrate nuptials which they find tend to the abasement of the species and the subversion of God's beneficence to mankind. As previously stated, the Catholic Church has already discouraged union in any near degree of blood affinity. We have no means of ascertaining, by reference to masses of population, the effects of this prohibition in diminishing the congenital occurrence of such defective offspring as my report presents. It has been attempted in Europe, as Rilliet mentions, with results favorable to Catholic populations. Quetelet's computation of the ratio of deaf and dumb to the whole population is precisely the same in both England and Italy. M. Meniese states that at this day every trace of this interdiction of the Church has disappeared: "Pendant une longue suite de siècles, le mariage fut absolument interdit á tous les individus

parents á un degré quelconque, l'Eglise se réservant le droit d'enfreindre la règle posée par elle-méme dans les rare circonstances dont elle voulait apprécier la valuer, mais ces rigueurs de la discipline furent sujette, comme tout d'autres choses, à un rélachement déplorable, et aujourd'hui toute trace de ces interdictions a disparu."

The facts offered in my paper are much too meagre to afford a basis for positive conclusions, but I think it is a step in the right direction, and will at least serve as a guide for other inquiries on this subject. I have, in the last few days, learned, with much pleasure, that Dr. John Bartlett, of Keokuk, Iowa, is now collecting facts for the publication of an essay on this subject. We may congratulate the profession that such an earnest and indefatigable lover of science has taken the subject in hand. The attention of the public press is somewhat, but not sufficiently, awakened to the importance of this subject. The Ohio Legislature, much to the credit of her physicians and lawgivers, passed at their last session a law requiring the assessors throughout the State to collect the facts connected with marriages of consanguinity and certain defects of offspring, and report them. These statistics will furnish a sufficient amount of testimony to establish beyond cavil the character and degree of influence these marriages exert upon offspring, and the profession will await with much anxiety the publication of this most important addition to our vital statistics.*

For reasons too apparent to be indicated, I am compelled to forego the satisfaction of an individual expression of thanks to many friends, both in and out of the profession, for assistance they have kindly rendered me in the collection of facts upon this subject.

---

* The following is a copy of the Act referred to:

An Act to ascertain the Number and other Facts respecting Deaf and Dumb, Blind, Insane, and Idiotic Persons, in the State of Ohio.

SECTION 1. Be it enacted by the General Assembly of the State of Ohio, That the Assessors in the several townships of each County of the State, while performing their duties, shall ascertain and enter upon a schedule prepared for the purpose, the name, in full, of each deaf and dumb, blind, insane, and idiotic person in the township, together with the age, sex, color, occupation, and place of birth of said persons, and whether educated or not; also, the names, in full, of the parents of said deaf and dumb, blind, insane, and idiotic persons, their place of birth, occupation, number of children, number of deaf and dumb children, and what affinity of blood, if any, existed between the parents previous to marriage; and that said papers be returned in due form to the Auditor of the proper County, at the time of returning the assessment of property, and by the said Auditor to the Secretary of State, on or before the first day of July, 1856. The Auditor of State shall furnish to the several County Auditors the necessary blanks or schedules to carry out the provisions of this Act.

Bi-Monthly Periscope.

PHYSIOLOGY.

1. Obliteration of the Portal Vein and the Secretion of Bile.—At the meeting of the French Academy of Sciences, Sept. 1, 1856, M. Oré presented a paper, detailing a series of experiments made with a view to ascertain the influence of obliteration of the portal vein upon the secretion of bile. The experiments were undertaken at the instance of M. Gintrac, of Bordeaux, who had observed, in his practice, a case which seemed to contradict the ordinarily received physiological doctrine, which teaches that the portal vein furnishes the liver with the materials for the secretion of bile.

The following are the author's conclusions:

"1. The secretion of bile having continued, after the partial and the complete obliteration of the portal trunk, I have concluded that it is not the blood of this vein which supplies the liver with material for its secretion. The gland is therefore dependent for its secretion upon the blood of the hepatic artery. The biliary secretion, like all others, is derived from the circulation of arterial blood. I have elsewhere established, that obliteration of the hepatic artery is not the proper means of testing the question, and cannot be considered, therefore, as weakening the conclusions which I am about to state.

"2. The secretion of sugar, by the liver, not having been altered by obliteration of the portal vein, is it not evident, as proved by M. Claude Bernard, that the production of saccharine matter is a proper secretion of the liver, and entirely independent of alimentation?

"3. The albuminous and glycogenous matters resulting from the digestion of feculent and albuminoid substances, being prevented from passing through the liver, are nevertheless not lost to the system, but enter the inferior cava vein by an anastomotic branch from the superior mesenteric vein.

"4. Finally, and it is with great hesitation that I put forth the statement, the arterial blood does not perform so important a part in the formation of sugar in the liver as in the secretion of bile."

After the reading of this paper, M. Andral stated, that in his medical practice he had observed a fact which fully substantiated the conclusions of M. Oré. A patient in whom there was reason to suspect, in consequence of external signs, an obliteration of the portal vein (a suspicion which was subsequently confirmed by an autopsical examination), not only did not present symptoms indicative of a suspension of biliary secretion, but yet gave evidence of a persistence of the glycogenous function by the occurrence of a diabetes.—*Revue Médicale, Oct.* 15, 1856. [Can it be possible that the distinguished medical savans of the French Academy, are ignorant of the fact, established by Kiernan and others, that the capillary terminations of the hepatic artery end in venous capillaries which open into the adjacent subdivisions of the portal vein, and are not, therefore, the radicles of the hepatic veins? A knowledge of this circumstance would, it seems to us, have furnished sufficient explanation of the continuance of the biliary secretion after obliteration of the portal trunk. But even if this were not the case, another fatal objection to the conclusions of MM. Oré and Andral is to be found in the fact that, when the portal vein is tied, its blood of course enters the general circulation, and in this way no small portion of it reaches the liver by the hepatic artery.—ED.]

2. THE TEMPERATURE OF THE BLOOD LOWERED BY PASSING THROUGH THE LUNGS.—At the sitting of same Academy, on the 15th of Sept., 1856, M. Claude Bernard read the continuation of his "Experimental Researches upon Animal Temperature," the second part of which relates to the modifications of temperature which the blood undergoes in traversing the respiratory organs. These experiments were made upon living animals, and M. Bernard thinks himself justified in coming to the following conclusions:

"1. That the circulation of the blood through the lungs causes a depression of the temperature of that fluid.

"2. That the lungs cannot therefore be considered a focus of animal heat.

"3. That the conversion of venous into arterial blood in the living animal, is not coincident with an augmentation in the temperature of that fluid, but, on the contrary, with a depression of its temperature."

In his next communication, M. Bernard proposes to examine into the modifications of temperature which the blood experiences in circulating through the genito-urinary apparatus.—*Ibid.*

[At a previous meeting of the Academy, M. Bernard, in a report of his experiments upon the modification of the temperature of the blood in its passage through the liver, established the fact that the blood is actually much warmer as it comes from that organ, than it is previous to its entrance.]

3. COAGULATION OF THE BLOOD.—In a recent letter to the London Lancet, Dr. Fred. W. Headland proposes a theory in regard to the coagulation of the blood, opposed to that advocated by Dr. B. W. Richardson, in his prize essay.

Sir:—When considering the subject of the chemical history of diabetes, in the year 1853, I was led, amongst other things, to conceive a certain theoretical explanation of the spontaneous coagulation of the blood. Having just now read over and reconsidered my notes taken at that time, I must say that I still prefer my theory to the one recently promulgated by Dr. B. W. Richardson, which it resembles in some points.

The statement, which I append below, is copied nearly verbatim from the notes referred to, but I may premise that the part of the idea which applies to *vegetable* physiology is the only part to which I have given any publicity, as at the time when it occurred to me I considered the whole matter of little moment.

The albuminous or nitrogenous matter found in the young growing cells of *a plant*, is in an insoluble condition. But on its passage in the fluids to those cells it must have been in some manner held dissolved in water. So, when the young cells get old and woody, they no longer contain this albuminous matter. On leaving them for the younger parts, it must again have assumed the soluble state. It seems to me that this phenomenon may be accounted for by supposing the albumen to be dissolved by an *alkaline* condition of the fluids, and deposited in some manner by the development of an *acid* at the particular point required.

The same may occur with the fibrine of animal blood, more prone to such coagulation than albumen. In the circulating blood of an animal, we find fibrine in the soluble state. In the tissues nourished by that blood it occurs in an insoluble form. But in the venous blood which carries away the effete products of those tissues, the fibrine is once more found in a state of solution. We are tempted to explain these facts in the same way as above: to suppose the fibrine held in solution by the presence of an alkali, and deposited in the insoluble form by the development of an acid. And, *in fact*, the blood is known to be feebly alkaline (from the presence of the carbonate or basic phosphate of soda), and the juice of muscle was found by Liebig to have an acid reaction.

But how is it that when the blood is withdrawn from the living body, its fibrine quickly assumes the solid or insoluble state—*i. e.* coagulates? By parity of reasoning, I suppose that this takes place again, by the development of an acid, to such an extent as simply to neutralize alkalinity, not so as to precipitate the albumen; this acid I believe to be *lactic acid.* It has been lately shown that glucose is always present in the living blood; and further proved, as I believe, that this glucose is continually changing into lactic acid, which, as fast as it forms, is bound or combined with oxygen to support the animal heat. When the blood is isolated, this vital process of combustion goes on no longer, lactic acid accumulates, the alkalinity of the natural blood is neutralized, and the fibrine coagulates. A tendency to nitrogenous decomposition may hasten this process, by supplying a ferment to act upon the glucose. Blood drawn in fevers coagulates quickly. Diabetic urine, allowed to stand for a time, may lose its sugar, and contain lactic acid. Extensive coagulation of the blood in the living body may be caused by injecting a putrefying liquid into the veins.

Another time I propose to comment at length, upon the theory of Dr. Richard son, and to state the motives which induce me to dissent from it. I am also planning a series of experiments, in order to put to a satisfactory test, the truth or falsity of the hypothesis sketched above.—*The Lancet.*

SURGERY.

1. Laceration of the Perineum. Case Successfully Operated on by Isaac Baker Brown's Method. By S. W. Butler, M.D., of Burlington, N. J.—[The October No. of the New Jersey Medical and Surgical Reporter contains an interesting account of a case of lacerated perineum operated on successfully by the editor after the method of Mr. Brown, of London. The history of the case and operation is preceded by a valuable synopsis of the literature of the subject, but our space will permit the introduction of only the former.]

"In June, 1856, I was consulted by Mrs. D——, æt. 38, who was suffering much in health and comfort, in consequence of a rupture of the perineum which occurred at the time of her seventh confinement, April 2d, 1853, more than three years since. The child was born suddenly by one powerful expulsive pain, before the arrival of her medical attendant. Her general health was failing, and her condition rendered her a source of discomfort to herself, and of annoyance to those about her. She was troubled with both uterine and vesical prolapse, the latter condition so interfering with the functions of the bladder as to render that organ and its secretion a source of great irritation to the system, amounting at times to severe strangury. In addition, she had scarcely any control over the secretion from the bowels. Especially was this the case in warm weather, when she sometimes found it necessary to sit for days and nights together on a night-chair. Wherever she was, too, and at all times, she and those around her were subject to the constant annoyance of intestinal gases, over the escape of which she had not the slightest control. In her first confinement, Mrs. D. had a slight laceration of the perineum, though it gave no special difficulty, and she never informed her medical attendant of it. Although naturally a woman of weak nerves and rather slender constitution, rendered much worse, of course, by having been for so long a time in such a deplorable condition, finding that she was growing worse, that life had become burdensome in her present condition, and fearing to encounter the heat of another summer, she resolved to have an operation performed, in hope of obtaining relief. An examination of the parts revealed the fact that there was complete rupture of the perineum, involving the sphincter ani, and a limited portion of the recto-vaginal septum. The hope and belief were held out to her that she could be relieved, and perhaps entirely cured, by an operation, while the fact was not concealed that her health had suffered much, and that her present condition in this respect, and the ordinary dangers attending every severe operation, would have to be encountered. She was also forewarned as to the severe ordeal she would have to pass through in the treatment succeeding the operation. She bravely, however, and, as the result proved, fortunately for her, resolved to encounter all and submit to it.

"On the 9th of June, 1856, at 4 P. M., her bowels having been cleared out by a dose of medicine and an injection, and having passed water a short time previously, with the assistance of Drs. Gauntt and Pugh, I proceeded to operate. She was placed on a table in the position for lithotomy, and the hair about the parts closely shaved off. An anæsthetic was used, consisting of ether three parts, and chloroform one part. When she was sufficiently under the anæsthetic influence, the sides of the fissure, which we found somewhat uneven and rough, were pared so as to present clean, raw surfaces to each other, without the interference of either skin or mucous membrane, to prevent perfect union. This part of the operation was considered very important, and was much more tedious than we had supposed it would be. The next step was *to divide the sphincter ani* on both sides of the os coccygis, about a quarter of an inch in front of its attachment to that bone, by an incision carried outwards and backwards. These incisions were about an inch in depth, and *should have been deeper*, as we found that we were somewhat embarrassed in our after-treatment by the action of the sphincter. *This is an important part of Mr. Brown's operation, the object being to destroy muscular traction, for so long as it exists it interferes with the union of the parts.* The next step was the insertion of the quill sutures, pieces of a gum elastic bougie being used for quills, and stout linen ("patent") thread, well waxed, being used for sutures. Being disappointed by the instrument-maker in procuring the form of needle recommended by Mr. Brown, a Physic's forceps was armed with an ordinary crooked needle, with which, and with a long crooked needle with a straight shaft, we succeeded with little inconvenience in introducing three sutures, taking care to have them enter the tissues an inch external to the margin of the denuded surface, and carrying it deep through the tissues nearly to the bottom of the fissure, hard by the mucous membrane of the vagina and rectum. The suture next the rectum was inserted first. The three sutures having been inserted, the next step was to place dossils of oiled lint into the incisions into the sphincter ani, to prevent the wound healing by the first intention, thus interfering with the process of healing between the pared surfaces, by muscular traction. The quills were then introduced, and the threads drawn moderately tight over them and tied. This done, two interrupted sutures were introduced for the purpose of bringing the skin into perfect coaptation. We supposed at the time that two sutures would be sufficient, but afterwards wished we had followed Mr. Brown's suggestion, and inserted three or four, as the union of the edges of the wound would have been more speedy and perfect. The parts were then examined by inserting one finger into the vagina, and the other into the rectum, and found to be in the desired condition. After thoroughly cleansing the parts, a dry lint dressing was applied for the present, secured by a T bandage, and the patient transferred to the bed, lying on her left side, with the thighs flexed on the abdomen, and the legs on the thighs, the knees being bound together by a few turns of a linen roller. There being a desire to pass water, introduced the catheter, and drew off a pint of limpid urine. Gave two grains of opium and one of camphor.

"The operation lasted a little over an hour, and was well borne by the patient. During the most painful part of the operation, and until near its close, patient was so completely under the anæsthetic influence of the chloric ether, that she was entirely unconscious of pain. Indeed, "imagination winged her fancy," so that while undergoing the operation, she was travelling in the States of Illinois and Missouri, where she had resided several years. She said she never was so happy. The ether, however, gave rise to a restlessness that interfered somewhat with the operation, a disadvantage which, according to our observation, does not attend the anæsthetic influence of chloroform when used alone."

[We omit the subsequent full details of the case. However, on the sixth day, everything having gone on well, the deep sutures were removed, and on the same day, in consequence of violent efforts to control the passage of flatus with which she had been troubled, and a rather imperfect division of the sphincter, the wound thus producing a fistulous communication, partly opened. On the ninth day the superficial sutures were removed. On the succeeding day fistulous openings were discovered at the verge of the anus, and at the posterior fourchette, which were touched with nitrate of silver. The wound had healed externally about an inch. There was a fissure at the verge of the anus. On the thirteenth day the recto-vaginal septum was examined, and *union appeared to be perfect throughout.* The fistulous opening was subsequently touched with tinct. cantharides, and on the nineteenth day had entirely healed. Two months after the operation it was found upon examination that there was about an inch of renewed perineum, and the parts perfectly sound and healthy, with the exception of a weakness of the sphincter ani, which prevented a perfect control of flatus. The recto-vaginal septum was perfect.]

2. CHRONIC ABSCESS OF THE LOWER END OF THE TIBIA.

"IN 1844 the leg was broken about three inches above the ankle joint; the fracture united kindly, but from that day until this he has suffered more or less pain in the limb. At length an opening occurred in the lower part of the leg, and pus was discharging. Dr. Hamilton amputated the leg near its middle, on the 4th of last month.

"The inflammation and consequent softening of the bone extends to about six inches above the joint, the whole of this portion being enlarged by an expansion of its structure, and by the conversion of its lamellated tissue into cellular, so that the structure of that portion of the diaphysis which is involved cannot be distinguished from the epiphysis.

"The cavity of the abscess is in the lower end of the bone, and is two inches in length in its long diameter, and one in its short. At two points the walls have been perforated by ulceration or absorption, forming cloacæ. The whole was lined with a perfectly organized and quite firm pyogenic membrane. The fibula has not partaken in the disease.

"It was believed that amputation would afford the only remedy, as the disease had existed so long a time, and the openings in the bone, which were free, and had existed also a long time, had failed to give any relief."—*Proceedings of Buffalo Med. Association.—Buffalo Med. Journal*, Nov. 1856.

3. MODE OF REDUCING DISLOCATION OF THE THUMB. By John Doe, M.D., of Cabot, Vermont.

"Having had occasion to reduce a dislocation of the thumb several times, when the first phalanx is thrown upon the dorsum of the metacarpal bone, and having never encountered any particular difficulty in effecting it, it has been a cause of surprise to me that the method I am now to describe is not more generally known. There is not an English writer on surgery, from Sir A. Cooper to Fergusson, nor an American one, so far as I know, that alludes to this method; and if we are to judge from an article by M. Demarquay, published in the Medical News, of May, 1852, and accredited to the *Bulletin de Thérapeutique*, it might well be presumed that the French are also innocent of practising or teaching it.

"The common method of reducing this luxation is, as is well known, to flex the thumb, fasten upon it a tape with a clove hitch, and with this make extension. If this, or more violent means, does not succeed, we are directed either to abandon the attempt at reduction, or what is still worse, effect it by making incision, or by amputation of the end of the metacarpal bone. Extension has sometimes been persevered in to such a degree that the soft parts have been lacerated, or the thumb actually torn off; and in Braithwaite's Retrospect, part xxii, M. Blandin describes a forceps well calculated to do this.

"In this dislocation, the phalangeal end of the metacarpus projects into the palmar surface of the hand, forcing itself between and through the flexor muscles of the thumb, which form a loop around the head of the bone. Extension made upon the thumb makes this loop more tense; and as the metacarpal end of the first phalanx is broad and considerably flattened on its palmar aspect, it must be apparent at once that the difficulty of reduction is directly as the amount of extension. There is good reason to believe that extension would never succeed in these cases without rotation. The principal indication in treatment here is to relax the flexor forming the loop, so that the end of the phalanx can be pushed forward into the loop, and by carrying the muscles forward with it, disengage the head of the metacarpus. This can be done in the following manner:

"Having previously warmed the hand, if cold, in warm water, the surgeon should seat himself by the patient, facing in the same direction, and upon the same side with the injured thumb, and place the hand upon his knee. Tip back the thumb upon the dorsum of the metacarpus to more than a right angle, or so as to form a slightly acute angle with the latter bone; place both index fingers against the ball of the thumb, and the ends of both thumbs against the dorsum of the disarticulated end of the phalanx; now by pushing forward forcibly, get steadily against the phalangeal bone with both thumbs. Reduction will generally be effected on the first trial, and almost instantly.

"The writer claims not the honor of originating this method, but supposes it to be adopted by many surgeons in this country."—*New Orleans Med. News*, Dec. 1856.

4. TREATMENT OF RANULA.—M. Gosselin, after alluding to the various modes of treating ranula that have been adopted, and the relapses that are so common after them, describes the plan that he has himself found beneficial. He first of all performs excision, as recommended by Boyer, and then cauterizes with the nitrate of silver. Next day he introduces a probe into the wound, owing to its tendency to close, and repeats the cauterization the day after that. On the third or fourth day he enlarges, by means of the scissors, the aperture, which has become too narrow, and on the following day cauterizes again. After ten or twelve days of this assiduous attention, if on the introduction of a probe he finds the cavity is obliterated, he leaves the opening to itself. If, however, a track of a certain extent still exists, he again enlarges the orifice with scissors. This attention to the case is rarely required beyond fifteen days, when the external opening becomes closed, and the cavity being obliterated, there is no fear of relapse. M. Gosselin has operated in this way in several cases, and in three of these, which he has watched for several years, no relapse has ensued, the opening remaining closed. This plan of procedure has also been extended to various analogous cases, in which there is a cavity with secreting walls, having no spontaneous tendency to approach each other.—*L'Union Médicale.—Boston Med. and Surg. Journal*, December 4th, 1856.

5. BALSAM COPAIBA AS AN INJECTION IN GONORRHŒA.—Mr. Dallas, of Odessa, states, in confirmation of the observations already published by Taddei, Marchal, and others, that the injection of the balsam of copaiba is the most efficacious mode of treating gonorrhœa:—In sixteen cases he has so employed it, using no internal remedy, either in recent or old gonorrhœa, with complete success. His formula is copaib., five drachms; one yolk of egg; gummy extract of opium, one

grain; water, seven ounces. The injection should be used several times a day.—*Gaz. des Hôpitaux.—Ibid.*

6. PERCHLORIDE OF IRON AS A HEMOSTATIC.—A correspondent of the "Moniteur des Hôpitaux" (1856, No. 24), states, that one of the principal elements of success in the difficult and dangerous operations M. Maissonneuve is famous for undertaking, is the remarkable use he makes of hemostatics during their performance. He cites a recent case, occurring in a lad of sixteen, of fungus tumor of the dura mater, the growth of which, after having been temporarily arrested by ligature of the carotid, took on enormous proportions, and was accompanied by exhausting hemorrhages. M. Maissonneuve determined upon its removal, but the tumor bled on the slightest contact, and the patient would not be able to bear the slightest loss of blood. The line of incision extended from the anterior parts of the ear to the summit of the head, and descending along the nose, was carried backwards, and then upwards to the base of the jaw, and its point of departure. A great number of arteries were thus divided, five or six of which, by reason of their anastomotic enlargements, had acquired almost the size of the radial artery. Intelligent assistants immediately compressed them with the finger, but it was impossible to thus continue the dissection without exposing the patient to the danger of death from syncope. M. Maissonneuve therefore applied to each vessel a little pledget of charpie, soaked in perchloride of iron, which was allowed to attach itself to the wound. At every stroke of the bistoury or scissors he applied a new plug, so that during the operation the patient scarcely lost a spoonful of blood; and when the tumor had been entirely removed, the entire surface of the wound was found completely dried and tanned, and was at once dressed, without the necessity of the application of a single ligature. The brown eschar which covered the wound was detached about the 20th day, without giving rise to any hemorrhage; and although the cure can scarcely be expected to prove radical, the patient for the present is perfectly well.—*Monthly Stethoscope*, Nov. 1856.

7. SURGICAL STATISTICS OF THE MASSACHUSETTS GENERAL HOSPITAL. By *S. Kneeland, Jr., M.D.*, of Boston.—During the preparation of an analytical index of the Surgical Records of the Massachusetts General Hospital, from its establishment in 1821 to 1856, a period of twenty-five years, some facts of statistical value came to my notice, which may prove interesting to the profession. I select a few of the most striking, alphabetically arranged, to obtain which it would be necessary for the student to employ several hours of tedious examination of manuscript.

AMPUTATIONS.—Of the *arm*, 20 cases, of which 4 were fatal, though only 2 depended on the operation itself; the other 2 were scrofulous cases.

Of the *fore-arm*, 18 cases; 1 death.

Of the *leg*, 90 cases, and 19 deaths, caused either by the severity of the accident, fracture of the skull, or other accompanying injury.

At the *shoulder-joint*, 6 cases, and only 1 death, although the accidents were very severe.

Of the *thigh*, 97 cases and 26 deaths, of which 5 were from the severity of the accident.

ARTERIES, *ligature of.*—The *external iliac* was tied 4 times, with 1 death in 2 days. The *internal iliac* was tied once, proving fatal in a week.

CANCER.—*Of the lower lip*, 58 cases, of which only 5 were in females, and generally beyond the age of 50. In most, the habit of pipe-smoking was acknowledged. Many eminent surgeons, among others the late Dr. J. C. Warren, have considered this habit one of the most frequent exciting causes of labial cancer.

Cancer of the tongue, 20 cases, of which 5 were females—almost always in tobacco-poisoned mouths. This comes on at an earlier age than cancer of the lip.

EPULIS, 9 cases, all females. The ages ranged from 15 to 59 years. The average age, 31½ years.

FISTULA IN ANO, 149 cases; of which only 14 were females, or 1 in about 10½. I do not find it mentioned in surgical works that this disease is most common in males; but the above proportion would seem to indicate that it is so. The disproportion can hardly be accounted for on the natural repugnance of the female sex to submit such lesions to the surgeon's notice; as the cases of hemorrhoids, and other diseases of the rectum requiring operations, in the hospital wards, show no such disproportion between the sexes. Larger tables might change the proportion somewhat, and this will do for a beginning.

FRACTURES.—Fracture of the *ulna* is rare, compared with fracture of the *radius*, and with fracture of both bones, notwithstanding the exposed condition of the olecranon; being in the proportion of 1 to 2. The same holds true in regard to fracture of the fibula, when compared with fracture of the tibia and that of both bones of the leg.

FUNGUS HEMATODES, 17 cases, of which 6 were in males.

HARE-LIP, 86 cases, of which 29 were females.

HIP DISEASE, 181 cases, of which 63 were females.

LUPUS, 8 cases, of which 3 were females.

NERVES, *division of*, for obstinate *neuralgia*, 9 cases.

Facial, 3 cases; of which 2 were relieved, 1 not relieved.

Inferior maxillary, 1 case, cured.

Inferior dental, 1 case, cured.

Infra-orbital, 3 cases; 2 cured, 1 much relieved.

Ulnar, 1 case, relieved.

STRICTURE OF ŒSOPHAGUS, 14 cases, of which 3 were in females.

TETANUS AND TRISMUS, 8 cases, of which 7 were fatal in from 2 to 19 days.

TORTICOLLIS, 18 cases, of which 5 were in males.

VAGINA, *occlusion of*, 5 cases; operation in 3 cases, of which 1 was successful, and 2 relieved.

VEINS, *introduction of air into*, 2 cases: 1 while removing a tumor in the neck, in which recovery took place; the other into the *axillary* vein, during removal of tumor from the axilla—fatal.

WOUNDS, *suicidal, of throat*, 30 cases, of which 4 were females; only 2 cases proved fatal, at the end of five or six days. It is rare that the suicide effects his object in attempting to cut his throat; from ignorance of the situation of the vessels, the cut is generally made too high up and too much in front; by the time the skin is cut, the pain prevents the completion of the suicidal act. The trachea is cut, but the great vessels escape, as we see by the small proportion of deaths among the cases, only 1 in 15.—*Boston Med. and Surg. Journal*, Nov. 27, 1856.

8. PERCHLORIDE OF IRON IN THE TREATMENT OF PANNIFORM KERATITIS.—The medical profession of Lyons, to whom we are in some manner indebted for the introduction of the use of the perchloride of iron as a therapeutical agent, are much interested just now in its application to the treatment of panniform keratitis. This disease is one of great severity, on account of its tenacity, its relapses, and its incessant aggravations, and finally on account of the impairment or total loss of sight to which it leads. Among the numerous methods which surgeons have employed in its treatment, cauterization, and annular division of the vessels supplying the new growth, have doubtless produced successful results; but their efficacy is not such as to leave nothing more to be desired. Their employment is not always easy, and, in the case of infants, oftentimes impossible.

To destroy the very minute vessels running from the surrounding conjunctiva to the surface of the cornea being the principal indication, M. Follin conceived the idea that this might be accomplished by means of the perchloride of iron. This powerful astringent arrested the abnormal circulation by coagulating the blood in the small vessels, which, consequently, being no longer required, were absorbed, and the cornea regained its transparency. Such are the results obtained by MM. Follin, Broca, and Gosselin, in several cases reported.

M. Follin makes use of the perchloride of iron in a perfectly neutral state, at 30° (Beaumé). A single large drop is introduced into the eye by means of a quill. The first effect is a burning pain and a sensation of powerful constriction, which gradually diminish in the course of a quarter of an hour. The heat is, however, more supportable than that produced by many other agents in use, the sulphate of copper for example. If the eye should continue injected and phlogosed, cold applications and gentle astringents should be resorted to; among which latter M. Follin prefers a decoction of rhatany. The perchloride is not repeated for two or three days, and marked amelioration is generally observed after the third or fourth application; the vascularity of the cornea is already diminished, the photophobia has nearly disappeared, and the sight made clear. It is rarely necessary, in order to produce a complete cure, to repeat the remedy oftener than ten or twelve times, frequently four or five applications are sufficient.

The presence of superficial ulcers on the cornea does not contra-indicate the employment of the remedy.—*Archives Générales.*

9. CASE OF SUCCESSFUL LIGATURE OF THE ARTERIA INNOMINATA. By *M. Peixoto.*—Among several interesting "Cases in Surgery" communicated by M. Peixoto to the Academy, we select this one for transcription. M. Moura, a distinguished Portuguese doctor of medicine, aged thirty-three, was the subject of it. An erectile tumor of the right ear began to develop itself in 1832, and in 1845 M. Nelaton tied the posterior auricular, considerable hemorrhage following the fall of the ligature. After temporary amendment, the tumor again made great progress, and frequently gave rise to serious hemorrhage; the patient being then at Rio Janeiro, M. Peixoto tied the common carotid in the middle of its

course, 14th November, 1851, and on the 27th surrounded the tumor itself by a ligature, which induced its separation by sloughing. On the 14th of December, some bleeding was observed where the carotid had been tied, the ligature not having yet come away; and as the hemorrhage recurred again, it was resolved to apply a precautionary ligature (*d'attente*) lower down. On the 8th, this was executed on the trunk of the innominata; and in a later communication to the Academy, the author states the cure was completed in two months.

M. Velpeau, reporting on this case,* observes, that, as far as he is aware, this is the first example of a cure resulting from the artificial obliteration of this artery; atthough the cases of accidental occlusion published by Pelletan, Martin-Solon, and Darrach, had already shown that its occlusion did not deprive either the arm or the brain of a sufficient supply of blood. The cases of operation have hitherto all terminated fatally. Mott, who first practised the operation, in 1818, lost his patient on the twenty-sixth day. Gräfe's patient died on the sixty-eighth day, Bland's on the eighteenth, and Hall's on the sixth. In Lizars' case, death occurred at the end of three weeks. After M. Kuhl's operation, in which the ligature comprised the subclavian and the carotid close to the innominata, death took place on the third day. A patient of M. Arendt's died on the eighth day; and two operations performed by M. Bujalski were followed by death in two or three days. Finally, M. Hutin lost his patient on the eighth day. So that ten operations have furnished as many deaths.

After all, M. Velpeau adds, this is not an example of ligature of the innominata, properly so called; for although a ligature (*d'attente*) was applied to and flattened the vessel, this was not tightened. The patient was cured, but nothing allows us to affirm that the ligature bore rather upon the common trunk than upon the origin of the carotid alone. Nor is there anything that absolutely proves the closure of the innominata, if closed it be, not to have taken place as a consequence of the first ligature, rather than under the mere influence of a ligature *d'attente.—British and Foreign Med. Chir. Review*, Oct. 1856.

10. GLYCERINE AND TANNIN IN VAGINITIS.—In the treatment of this affection, M. Demarquay has found a composition, consisting of eighty parts of glycerine and twenty of tannin, of great service. When the vaginitis first appears, the inflammatory symptoms should be calmed by appropriate regimen, baths, and frequent emollient injections. When the first stage of the inflammation has passed away, and the careful introduction of the speculum has become possible, abundant injections of water are to be thrown in, so as to remove all the muco-pus which lines the walls of the vagina, and these are then dried by a plug of charpie placed at the end of a long forceps. Then, three plugs of wadding, well soaked in glycerine and tannin, are to be introduced. Next day, after a bath, the plugs are removed, new injections made, and the dressing repeated. M. Demarquay has never had to have recourse to more than four or five such dressings. After discontinuing them, astringent injections, consisting of infusion of walnut leaves, in which one drachm of alum to the quart has been dissolved, are employed two or three times a day for a week or ten days.—*Bulletin Thérapeutique,—Ibid.*

---

* Bull. de l'Acad. tom. xix.

11. CURE OF NAIL IN THE FLESH, WITHOUT OPERATION, BY THE USE OF A SOLUTION OF ACETATE OF LEAD.—The *Correo Medico-Quirurgico* publishes under the above title, a communication to the Surgical Academy of Majorca by Dr. Romualdo Saenz, which contains a clinical verification of the etiological and therapeutical ideas concerning the disease in question, put forth by Professor Van Wangening, of Holland. According to these two observers, the expression *inverted nail,* is incorrect, and leads to improper treatment: the nail does not enter the flesh, but the reverse, the soft parts extending over the nail, in consequence of inflammatory swelling. The indication, therefore, is to cure the chronic inflammation, and repress the fleshy excrescences; a result which may be accomplished by the use of a saturnine wash, as first recommended by Van Wangening.

The diseased parts having been washed with tepid water, the nail should be gently separated from the fungous growth by which it is covered, and two or three drops of the liquid subacetate of lead dropped between them: the parts should then be covered with raw cotton wet with the same liquid. This dressing should be repeated every hour, or every two or three hours, taking care to change the cotton every day, as it becomes hard in the course of twenty-four hours, and will no longer imbibe the solution. The application forms also, upon the surface of the granulations, a solid crust, which it is necessary to remove to prevent purulent accumulation. This dressing should be continued until there is a complete cure.

In proof of the efficacy of this treatment, Doctor Saenz reports several cases in which it was entirely successful. The first was that of a woman, forty years of age, in whom the disease affected the index finger of the right hand: the flesh covered nearly the internal half of the nail, and was the seat of violent pain. Various topical remedies had been employed without avail. Dr. S. ordered the foregoing dressing to be applied, and a cure soon followed.

The second case was that of a woman, who had been a great sufferer for a long time, the disease occupying the ring finger of the left hand. Fungous granulations covered nearly the entire nail. Various unsuccessful applications had been made, including the nitrate of silver. The same treatment was ordered as in the preceding case, and in a short time the disease was entirely cured.

In another case, occurring in the right index finger, the diseased parts had been touched with turpentine, which greatly aggravated the pain. In this, as in the others, the saturnine solution produced a rapid cure.

In many other cases mentioned by Dr. Saenz, including one in which the great toe was affected, the treatment was equally successful.

Finally, Dr. Saenz claims that the acetate fulfils, in the treatment of this disease, all the precepts included in the motto, *cito, tuto, et jucunde,* and is an example of true progress in modern therapeutics, since it forms an effectual and painless substitute for the violent surgical means heretofore employed. The claims of Dr. Saenz are, however, doubtless exaggerated. In many cases in which the inversion depends upon a vicious conformation of the matrix of the nail, and such cases are incontestable, the means of cure are necessarily mechanical, and the solution of acetate of lead comparatively useless; but, on the other hand, we are willing to believe that Drs. Van Wangening and Saenz have cured cases by the means described, and have therefore rendered an essential service to the healing art.—*Revue Thérapeutique Med. Chir.*, Sept. 15, 1856.

12. SPINA BIFIDA.—By *Wm. H. Byford*, of Evansville, Ia.—"Within twelve months past three cases of spina bifida have been brought to my notice, in all of which a peculiarity has been observed which, so far as I know, has not been described by writers upon this subject. The peculiarity has reference to the genital organs mostly; and although in an affection of such general fatality it may not be a matter of much importance, so far as success in management is concerned, yet some interest may attach to it physiologically and pathologically. Two of the cases occurred in my own practice in this city, and the third in the practice of a respectable country practitioner (Dr. Thos. Runcie).

CASE I.—Mrs. H. gave birth to her third child, female, June 6th, 1855. It was small, but to all appearances healthy and well formed, with the exception of a spina bifida tumor, occupying the place of the processes of the two lower lumbar vertebræ, about the size of an orange split in half. A circumstance worthy of note, was a tendency in the lower extremities to draw up to the front of the abdomen and chest. They were, when not controlled by interference, extended somewhat rigidly and bent upon the abdomen, so that each foot touched the ear of the side opposite to which it belonged, and it required some force to restore them to their natural position. In about eighteen hours after its birth, the father came to my office and requested me to call, as the mother said something very uncommon was the matter with the child. Upon arriving, she directed my attention to a thick tenacious bloody mucus on the napkin, stating that it came from the vagina, that the child had cried a great deal through the night, and seemed to be affected with bearing-down pains, as shown by its almost constant straining. Upon separating the labia, I found them and the thighs stained by the same discharge as was upon the napkin. The entrance to the vagina was large enough to admit the end of my thumb without obstruction. Protruding between the labia was the neck and body of the tiny uterus, with this mucous discharge issuing from the patulous os tincæ. After a moment's consideration, I oiled my thumb and pressed gently the latter organ upward and backward out of sight. A compress was bound over the closed labia with a T bandage. This afforded so much relief, that the child rested better for several hours; but the descent was repeated, and the organs returned to their places several times before the death of the child. Bearing-down pain invariably returned with the descent, and was relieved by the replacement of the uterus. The child lived about a week, when it died, worn out and exhausted by the suffering and pain, as I thought, from the prolapse. This case, although peculiar in this particular, did not cause any reflection other than a double malformation of any other kind. I supposed it a rare occurrence merely, and not worthy of special note.

CASE II.—In less than two months I was called to see another child, delivered the day before, with a spina bifida in the same locality, though not quite so large as the one above-described. I could not learn that the legs assumed the same position as in the first case, but the mother spoke to me of the sanguinolent discharge upon the napkin. The child was female, and upon examination, I found the vaginal opening much larger than natural, and the uterus visible between the labia. It had been crying all night, and straining fearfully. The uterus was made to ascend by very slight pressure upward. This handling did not give any uneasiness, as far as we could judge, and the replacement was followed by complete relief for several hours. This patient lived about ten days, and, as with the other, I thought was exhausted by the pain and watchfulness caused by the prolapse.

"The case of Dr. Runcie (which was the third), was almost exactly like my first. The labia were separated by the prolapsed uterus, the vaginal opening much larger than natural, the same bloody mucus was discharged, and the child was distressed by the same sort of bearing-down pain. In all these cases, the mucus discharged was of that thin tenacious kind furnished by the neck and cavity of the uterus, and in the first instance was seen issuing from the diminutive os tincæ. In a practice of nearly eighteen years, I had not, before last June, seen a case of spina bifida; in the last twelve months I have met with three—all females—all affected with congenital prolapsus uteri. Although unable to say, I apprehend, from the silence of all the authors I can at present consult, that the prolapse is rare. Certainly, however, when it is an accompaniment, it greatly embarrasses the management of the case, and renders the affection more surely fatal. Observing three cases of spina bifida with this peculiarity, occurring close together, induced me to think it might have possibly been hitherto overlooked, and determined me to send them to you for publication. These cases all proved fatal, the first in about one week, the second ten days, and the third three weeks. All of the little patients seemed to suffer a good deal of pain, apparently from the uterine malposition."—*Am. Journal Med. Sci.*, Oct., 1856.

13. TRAUMATIC TETANUS SUCCESSFULLY TREATED BY LOCAL APPLICATION OF CHLOROFORM TO THE SPINE. By *F. Hinkle, M.D.*, of Marietta, Pa.—Mrs. D. E., æt. 38 years, of feeble constitution, the mother of six children, the last being but five months old when the following accident occurred. Having decapitated a large eel, preparatory to stripping off the skin, she attempted to hang the head upon a nail. While doing this, the jaws snapped and caught the index finger of the left hand upon its internal surface, between the second and third phalanges, directly over the joint. The contraction of the jaws was so firm that she was obliged to open them by inserting a knife and forcing them apart.

The pain caused by the bite produced partial syncope. Upon examining the finger she found that the skin was divided in several places along the line made by the jaws. The finger became purple and tumid on its internal surface, attended with acute pain.

She engaged more or less in her household duties from this time until November 16, a period of three weeks, when she consulted me. She informed me that since the accident she had suffered pain of a dull, aching character, at times more or less acute, according as she used the affected hand. She now presented the following symptoms: Pulse 58, very soft and slow; skin hot and dry; tongue slightly coated; bowels had not been moved for two days; acute pain, recurring every fifteen or twenty minutes in the epigastric region, and extending into the hypochondriac region of each side. This affected her breathing, especially when the pain was severe, showing that spasm of the diaphragm was present. Eyebrows contracted; alæ nasi expanded, producing an anxious expression of countenance. It was impossible for her to open her eyes to more than half their extent.

Upon examining the finger, the punctures made by the teeth could be distinctly seen. Pressure over this surface caused acute pain, which darted along the arm, up to her neck, along the spinal column, head and face. There was not a nerve about the head or extremities but what was painful upon pressure. The stiffness, as she termed it, of her face and limbs, with difficult deglutition, had been coming on for four or five days before I was called, she thinking it was only a bad cold. She could not sleep at night on account of spasms, which commenced at the diaphragm and extended to the head and extremities.

Treatment.—I directed her to take four compound cathartic pills, to be followed by a dose of castor-oil, if required; and to have her feet bathed in hot water, to which mustard had been added. A large pad of raw cotton covered with muslin to be laid along the whole length of her spine, and half an ounce of chloroform, mixed with one drachm of ether, to be dashed suddenly along the skin; the pad then to be secured over the spine by tapes tied in front of her chest. The patient was now turned on her back, and a drachm of the mixture was applied to the epigastrium, which was also covered with cotton. This afforded almost instant relief to the spasms, and mitigated the pain along the main nerves. The wounded finger was also bathed in chloroform, and well wrapped in cotton. I directed the chloroform to be repeated every two or three hours.

Nov. 17. 9 o'clock A.M. No improvement; symptoms the same, but yielded readily to the application of chloroform. When the applications were not made, her sufferings were very much increased. Breathing more labored; bowels moved twice, but not freely. To use the chloroform more frequently, and give the following powder: ℞.—Hyd. chlor. mitis grs. viii; Pulv. ipecac. gr. j.—M. To be followed by a dose of Epsom salts; also to take a spoonful of the following mixture every two or three hours: ℞.—Spts. æther. nit. f ℥j; Ol. terebin. f ʒj; Ext. cannab. ind. ℈j.—M.

18th. 8 o'clock A.M. Found the patient much better. She has had two or three dark-colored dejections. Pulse 60; features less contracted. The pain in finger, cervical ganglia, stiffness of neck and jaw, are all much improved. Can bear more pressure on the spine and along the course of the nerves. To continue the applications of chloroform, particularly to the wounded finger and to the arm and neck of the affected side; and, in addition, to take the following pill every four hours: ℞.—Ext. cannab. ind. gr. j; Mass. hyd. gr. ½; Pulv. rhei, grs. iss.—M.

19*th.* Symptoms continue favorable; pulse 60; tongue nearly clean; bowels moved; pain diminished, except in the arm and neck of right side. Countenance still indicative of the disease. Treat. cont.

20*th.* 9½ o'clock A.M. Symptoms improving; pain diminishing. Continue treatment.

21*st.* 11 o'clock A.M. Decidedly better; difficulty of deglutition nearly gone.

22*d.* Feels tolerably well, but says if she could only sleep at nights she would be better; she finds her mind constantly wandering the moment she dozes. Pulse 65; skin moist; tongue clean. She can insert the end of her little finger between her jaws; pains have nearly left her. Treatment continued. Left the patient in good spirits, considering her nearly convalescent.

24*th.* Sent for, in great haste, at 3½ A.M. Found her sinking rapidly; pulse not perceptible at the wrist; features greatly contracted; eyebrows corrugated; jaws closed; eyelids closed, without power to open them; left pupil dilated; skin cool; finger painful; general muscular contraction, especially of the diaphragm; breathing labored and painful; countenance anxious; deep livid hue of face; acute pain every ten minutes, commencing at diaphragm and extending to spinal column, ends of fingers and toes. Could not bear pressure on any part of the body without a jerk, like an electric shock. Gave brandy every fifteen minutes; applied chloroform freely to the epigastrium, spine, neck, arm, and finger. Could not see her tongue; bowels moved yesterday. Gave three ounces of the best brandy with Hoffman's anodyne and tincture of valerian in an hour. Also two grains of ext. cannab. ind. Pulse now gradually rose to 50. Chloroform controlled the pain.

7 A.M. Pulse 54, fuller; countenance more natural and less livid; pupils equal; better temperature of skin; breathing still difficult, but not so painful. I now applied one or two ounces of chloroform every hour or two, just as the pain returned, and thus again succeeded in checking the spasms, which were anticipated the whole day.

1 P.M. Applied caustic iodine to her finger every four hours, so as to blister it freely, but not expose it so much as a fly-blister necessarily would do.

8 P.M. Pulse 55, rather feeble; skin moist and cool; bowels not yet moved; dyspnœa not so constant; otherwise the same as at last visit. Directed her to use brandy and beef-tea freely; gave pills composed of quinine, ext. cannab. ind., and mass. hydrar., every three hours, and to continue the local applications.

25*th*. 10 A.M. Tetanic symptoms milder; longer interval between the pains, and they are less violent; breathing improving; pulse 54, soft and feeble; voice faint; jaws still stiff, as are most of her muscles, yet the chloroform has removed all acute pain. Continue treatment; and, in addition, use twelve drops of the following mixture every two hours: ℞. Spts. æther. nit. f℥ss.; Ol. tiglii, gtt. j.—M. If dyspnœa returns, to use Hoffman's anodyne and tinct. valerian.

A consultation having been agreed upon, Dr. J. Aug. Ehler, of Lancaster City, met me at 7 P.M. We found her slightly improved. Breathing not so painful; skin warmer; countenance more lively and less livid; features still contracted; the other symptoms remained as they were at my last visit. Pulse 54. She has taken half a pint of brandy, with beef-tea. Continued treatment. Dr. E. ordered the cannab. ind. in large doses.

She continued to improve and relapse for four days, supported by brandy, beef-tea, emulsion of carbonate of ammonia and tr. musk.

The bowels were kept regular by castor oil. The ext. cannab. ind. was given to relieve pain and spasm, and the chloroform continued.

30*th*. The disease was now evidently checked, and from this period her recovery gradually took place. By December 10, she was perfectly well.—*Ibid., Oct.*, 1856.

PRACTICAL MEDICINE, ETC.

1. THE MICROSCOPE IN THE DIAGNOSIS OF PHTHISIS.—[In a recent work by Dr. Gustaf von Düben, of Stockholm, entitled, "A Review of the Contributions yielded by the Microscope to Medical Diagnosis," the aid furnished by the micro-

scope in the diagnosis of phthisis is given in the following statement, which we copy from a review of the work in the November No. of the Dublin Quarterly Journal of Medical Science.]

"If the practical physician meets with a patient who describes a previous pneumonia, of which his present illness is a consequence, or in whom the physical signs, in agreement with the history of the case and the rational symptoms, disclose the lesion which is developed in the lungs, he has no doubt as to the diagnosis. But if, on the other hand, he be called to a young patient, in whom all other modes of investigation are merely sufficient to establish the existence of a chronic catarrh, the microscope alone can decide whether this catarrh is uncomplicated, or whether tuberculosis lurks behind it. The honor of the discovery of the microscopic sign belongs to Professor Schroeder van der Kolk, of Utrecht, who published an essay on the subject, which was translated into Swedish by Ehr. Ekströmer, Chir. Magr., and inserted in the Hygeia for 1850, pp. 21–39. Singularly enough, the matter seems to have attracted but little notice, although it is, as I can testify from extensive investigations, of the greatest importance; the positive result has never as yet been disproved by the issue of the case.

"We know from pathological anatomy that in pulmonary catarrh the mucous membrane of the bronchi only is destroyed, and even this imperfectly, whether the disease has an acute or chronic course. The same is the case with acute pneumonia in process of recovery. In none of these cases can we, therefore, *a priori*, expect to find in the sputa any other elementary parts than those belonging to this membrane, and experience has confirmed this view.

"In pneumonia, on the contrary, which assumes a chronic form, or where, through the formation of pus, destruction of parts of the lung takes place, other portions of the bronchi, besides the mucous membrane, are attacked and are destroyed by the ulcerative process. The same occurs in tuberculosis. In both these cases we may beforehand expect, and afterwards find, in the sputa, fragments of the bronchial walls. The characteristic point in the sputa, from vomicæ, is the presence of the elastic filaments of these walls; they are *never* wanting so soon as a progressive vomica is met with.

"So soon as these elastic filaments are found in the sputum, they are certain signs of a vomica. It is, however, only important to seek them in cases where other signs are not sufficient to establish a certain diagnosis. Such a case is incipient tuberculosis.

"We usually find signs of more or less extensive chronic catarrh. The sputa consequently contain a great quantity of pus-cells, and of oval or round epithelium. They have all the external and microscopic characters of concocted sputa. If we now take out of such a sputum, with a forceps, a small portion from one of the clearer parts, we see in the white or whitish-yellow mass, and bring it thinly spread out under the microscope, at a magnifying power of 250, we usually find in it fragments of the elastic tissue, particularly if the tuberculosis is still recent. Experience has, in fact, shown that the elastic tissue is more easily found when the disease has not lasted long, and for this there are two reasons.

"In the first place, in tuberculosis of small extent, the catarrh is more limited to the bronchi coming from the tuberculized part; consequently, the formation of the sputa must take place there, and the latter therefore contain the object of our search in greater quantity; secondly, at the commencement of the ulcerative process, the tissue, being less completely destroyed, must yield large and more distinct portions to the bronchial secretion than afterwards, when a more violent action in the walls of the cavity breaks down the pulmonary tissue more perfectly before it can be separated. We have, therefore, in the sputum of recent tuberculosis, both a less volume to examine, and larger fragments to find—two very great advantages, as the question is precisely to be able to make an early diagnosis."

2. ON THE TREATMENT OF CHOREA BY GYMNASTIC EXERCISES.—By *Dr. Blache.*

M. Blache observes, that two indications should guide us in our treatment of this affection: 1. To restore to the will its empire over the muscular contractions —i. e., regularize the movements; and 2. So to say, reform the constitution of the patients.

M. Blache regarded the methodical use of sulphur baths as the best constitutional remedy for the affection, until he had recourse to gymnastics. The great success which attended the application of these in 1847, under the skilful direction of M. Laisne, to scrofulous subjects at the *Hôpital des Enfans,* induced the directors to erect large gymnasia, and extend their employment to various other diseases, among which was chorea. In the present paper, M. Blache gives an account of 108 cases so treated, 100 being first attacks, and only 8 relapses—an important distinction, as the ordinary duration of a case of chorea is diminished by a number of relapses. These 108 were divided into two categories, according to the severity of the disease; one of these being composed of 34 cases, of mean intensity, and the other of 74, in which the agitation was as violent as possible. The whole of the 34 were cured in a mean period of twenty-six days and eighteen *séances;* of the 74, 68 were cured in forty-five days with thirty-one *séances.* Therefore there remained but 6 cases which may be regarded as failures. There were examples of chronic chorea, which in the end was also cured, requiring 122 days and 63 *séances.* Calculating in another mode, we have 102 cases in 39 days, and 6 in 122 days.

For the description of the procedure that is had recourse to, M. Blache takes an aggravated case, in which the movements are violent and speech impossible. Here the will of the subject being powerless, nothing can be demanded of him; and the gymnastics must be entirely passive. M. Laisne, aided by three or four intelligent pupils, fixes the patient on his back in bed, and retains him thus motionless for ten or fifteen minutes. He then shampoos with the open hand, the chest and limbs for a long time, following this by brisk friction. Similar manipulation is pursued at the back parts of the body, and especially at the nape, and over the muscular masses alongside the spine. A *séance* of this kind lasts about an hour, and is repeated for three or four days in succession. An amendment in the disordered contractions is observed after each; the child evidences its contentment, and calm sleep is restored. The following days, without entirely discontinuing the shampooing, the child is taught to execute very regular and perfectly rhythmical movements. Thus, suppose the arms are hanging in a state of supination by the side of the body, the operator takes hold of them by the wrist, bends the forearm upon the arm, carries the latter directly upward and forward, and then replaces the forearm in a state of extension. The hands are now raised in a parallel manner above the head, and from thence they are brought down to their point of departure, always following a well-marked ternary measure. This manœuvre is executed a great number of times, with much regularity. The inferior extremities are submitted in their turn to analogous movements: the leg is bent rapidly on the thigh, and this on the pelvis, when both are brought into extension, following a binary measure.

It is clear that the manipulations employed must impart remarkable activity to the capillary system of the skin and subjacent tissues, and through this to the intimate process of nutrition. The movements are so combined, that muscles whose motions are synergetical are brought into regular and simultaneous action. Unable to contract spontaneously and with regularity, they seem quite passive, so that the limbs may be bent or extended without the will of the patient contributing to the effect. Indeed, this generally opposes it, and it is only obtainable by employing a certain amount of force. But after one or two *séances*, the hand of the operator is enabled to follow the contractions which come to his aid with regularity. Every day the command of the will over the muscular system is strengthened, the abnormal movements at the same time diminishing in frequency and intensity. Not infrequently, during the first days, pains are excited in some of the joints by movements at all strong; but these, which some have considered of a rheumatic character, disappear after a few *séances*. After the employment of these passive movements for eight or ten days, very marked improvement is observed, for the child can now speak intelligibly, feed itself, and, in some instances, walk about the ward. He now joins the gymnasium, and takes part in the exercises under the surveillance of the master or a monitor-pupil. These exercises are graduated, and have in view the production of regular and easy physiological movements of the trunk and limbs—movements in which the will and the attention are called into play as much as are the physical powers. A great number of the manœuvres are performed in common, and during their execution the master and his pupils sing an air in two or three well-marked times, according as the exercises are performed in binary or ternary measure. The little patients, ranged in groups, are led away by the rhythm and by imitation. Other exercises are individual, and executed by each child according to its strength, all having for their object the rousing the attention, and bringing the muscular contractions under the empire of the will.

The spirit of order and discipline exerts upon these children the most salutary influence. The attention, zeal, and great address of M. Laisne, aided by the means for insuring safety in the gymnasium, have prevented any kind of accident occurring. During the first ten days, the children pursue the exercises with ardor. They are desirous of doing well, and their disposition seems to undergo a favorable change as they become more lively and open, and at the same time more docile. The organic functions are remarkably influenced from the first, the appetite becoming very keen, and requiring a proportionate supply of aliment; the muscular power increasing, and even already some increase of flesh being apparent. From the tenth and twelfth day, this amendment is subjected to some check; and we must now support the will and courage of the patient, and the more so, because the children endowed with most courage, determination, and docility, make the most rapid progress. After some days of this resistance, renewed improvement is observed, and we may be sure that the cure will now prove prompt and radical. Whatever the future may reveal, hitherto, no relapse has been met with.

M. Blache enters into a comparison of the relative efficacy of gymnastics and sulphurous baths; and although employed alone, the former mode of treatment is to be preferred, yet the combination of the two modes is often desirable.—*Mem. Imp. Acad. of Med.—Brit. and Foreign Med. Chir. Review*, Oct., 1856.

3. LARGE INTESTINAL CALCULUS.—[In a recent collection of tinted lithographs, taken from important preparations in the Anatomical Museum at Stockholm, is a representation of a remarkable intestinal concretion; an account of which we extract from the October No. of the British and Foreign Medico-Chirurgical Review.]

The case of intestinal calculus is a rare specimen of the development of an enormous concretion, which formed in the caput cæcum and appendix vermiformis of a laboring man, aged twenty-two. It was passed per anum after intense suffering, the dislodgment having been apparently effected by the use of seal oil, which the patient prescribed for himself, after having been under the hands of medical men to no purpose. The calculus weighed fourteen ounces and a quarter, was nearly seven inches long, and about two broad. Its shape was moulded to the vermiform process and the cæcum, which it had occupied. The surface was granular, exhibiting impressions of the mucous membrane. About the middle of the concretion was a minute cavity, about 0·1 inch (4 millimètres) in diameter, containing a small coagulum, round which the calculous matter was arranged concentrically as far as the surface; the further accession of calculous matter in the direction of the two ends of the concretion also exhibited a generally concentric arrangement round the coagulum, but the circles were necessarily not completed. The layers surrounding the coagulum were alternately tawny and containing a hairy substance, and yellow, more solid and earthy. This alternation was particularly regular for the first six layers, the hairy layers being less broad than the others. The hairs, on microscopic examination, were found to be the hairs that invest the caryopsis of oats.

The following is the chemical analysis of the inner layers:

Matters soluble in ether,	1·58
Soapy matters soluble in pure alcohol, the bases of which were soda, lime, and magnesia,	0·30
Fatty salts and acids soluble in water,	5·20
Water mixed with the above salts,	0·72
Sub-phosphate of lime, phosphate of magnesia, with traces of iron and manganese,	77·50
Silicic acid,	0·70
Hairs of caryopsis of oats,	14·00
	100·

Other portions of the concretion were found to contain a small amount of carbonate of lime. No biliary matter could be found in any part.

Before concluding this article, we may also allude to a very interesting specimen of a pedunculated calculus of the bladder. It was discovered in the body of an old woman, of whose previous history nothing was known. The peduncle and the nucleus of the calculus was a fibrous polypus growing from the upper and back part of the bladder; the peduncle from which the calculus was suspended was half turned upon its axis. The base of the calculus was broken off, the fragments probably having passed off by the urethra. What remained was nearly three inches in its longest, and two inches in its broadest diameter, and presented an elliptical shape. It nearly half filled the bladder, which exhibited considerable thickening in its muscular and mucous coats.—*Ibid. Oct.*, 1856.

4. Pericarditis. By *H. Bamberger.*—Fifty-seven cases of pericarditis, which occurred under the eye of Professor Bamberger, and of which twenty-seven proved fatal, are here analyzed, with a view of determining the etiological relations of this disease. The list only includes cases of undoubted pericarditis observed by the author himself, while all cases are omitted in which traces of former pericardial inflammation were discovered after death. The first point which results from the analysis is the infrequency of isolated pericarditis, which only occurred three times, or in about five per cent., and it is to be observed these cases were not fatal; in several of the fatal cases which were, during life, regarded as simple pericarditis, the post-mortem exhibited morbid conditions of other organs, which were nesessarily primary to the heart affection. Professor Bamberger's observations confirm the fact of rheumatism being the most frequent cause of pericarditis; his tables yield 17 cases dependent upon that disease, or 30 per cent.,—a ratio that approaches nearer to that established by Dr. Taylor than that by Dr. Chambers. The former found rheumatism to be the cause of 21 out of 40 cases, or 52 per cent.; the latter only found 18 out of 135 cases of pericarditis dependent upon rheumatism, or 14 per cent. The period of the supervention of the pericardial affection varied from the fourth day to four weeks after the commencement of the rheumatism; the majority of cases occurred between the sixth and fourteenth days. Next to rheumatism, Professor Bamberger finds tubercular disease to be the most frequent cause of pericarditis; it coexisted in 12 out of the 57 cases; and if we subtract 4 cases in which other complications, as aneurism and granular kidney, coexisted, there still remain 8 cases, or 14 per cent., in which tuberculosis was the undoubted cause of the pericarditis.

Professor Bamberger found 4 cases in which there was aneurism of the aorta, a circumstance at variance with Dr. Stokes's remark, that this complication is extremely rare. He is also opposed to the views of Dr. Taylor, regarding the frequency of granular kidney as a complication of pericarditis, as he only met with it in 7 cases, 4 of which presented other important complications, viz., 2 of tuberculosis, and 2 of cardiac hypertrophy. He only met with 1 case of granular metastatic pericarditis dependent upon pyæmia after traumatic inflammation of the knee-joint. One other case of pericarditis with puerperal fever might be explained in the same way. Professor Bamberger has only once observed pericarditis in connection with typhus. He adverts to the occurrence of pericarditis after scarlet fever, but does not appear to have observed it himself. The author briefly adverts to the symptomatology and therapeutics of pericarditis. With regard to the latter, we would only note the fact, that he altogether eschews mercury; not one of his patients received it; a circumstance which deserves the serious consideration of those practitioners who place their main reliance upon that drug, since the results obtained by Professor Bamberger are by no means despicable. His treatment consisted in the local application of leeches, and of the administration of digitalis, aqua lauro cerasi, acidum hydrocyanicum, bitartrate of potass, acetate of potass, and the like.

The article on valvular disease is based upon the analyses of 211 cases, observed by the author himself, 69 of which were watched up to the time of death. Cases of recent endocarditis are excluded, while only such cases of valvular disease are admitted in which there was insufficiency or contraction of the orifice. The following is the summary of the analysis:—Of the 211 patients, 109 were males, 102 female; of the 69 that died, 32 were male, 37 female. The valves were diseased as follows:

Mitral alone,	58 males,	79 females.
Aortic alone,	34 "	11 "
Pulmonary alone,	2 "	
Tricuspid,	1 "	

Total of single valves affected: 185 cases.

Mitral and tricuspid,	5 males,	7 females.
Mitral and aortic,	6 "	3 "
Mitral, tricuspid, and aortic,	3 "	2 "

Total of complicated valvular affections: 26 cases.

The comparison of this analysis with the results obtained by the post-mortems is interesting; the latter showed 52 cases in which single valves were affected, viz.:

Mitral alone,	9 males,	22 females.
Aortic alone,	12 "	6 "
Pulmonary alone,	2 "	
Tricuspid alone,	1 "	

The preponderance on the side of females in regard to mitral diseases, and of males in regard to aortic disease, is very palpable, and is further confirmed by what is observed in the complicated cases. Among the post-mortems 17 were complicated:

Mitral and tricuspid,	4 males,	5 females.
Mitral and aortic,	2 "	2 "
Mitral, tricuspid, and aortic,	2 "	2 "

The analysis of the ages of the patients shows the greatest frequency of mitral disease to occur between the tenth and thirtieth years, and of aortic disease between the thirtieth and fiftieth. Acute articular rheumatism was ascertained to have preceded in 51 cases, or about 25 per cent. Professor Bamberger observes, that while his results correspond with those generally obtained by German observers, they differ from those obtained in England, where disease of the aortic valves is found to predominate considerably over mitral disease. It would appear that atheroma, which is the main cause of the former, is of more frequent occurrence in England than in Germany.

5. IDIOPATHIC TETANUS; TWO CASES, WITH ONE CASE AFTER ABORTION; AND NOTES ON TRAUMATIC TETANUS. By *Robert Annan*, Surgeon, Kinross.—At the recent trial of Palmer, few of the medical witnesses had seen *idiopathic* tetanus, and Sir Benjamin Brodie, and Mr. Blizard Curling, surgeon to the London Hospital, in particular, stated that death from idiopathic tetanus is rare in this country; the latter gentleman giving in evidence that he had seen more than fifty cases of *traumatic*, but not one of *idiopathic*, tetanus.

In a paper read before the Medico-Chirurgical Society of Glasgow (and reported in the Monthly Journal of Medical Science, Dec., 1845), Dr. Watson, senior physician to the Glasgow Royal Infirmary, remarks, "I have seen and treated a good many cases of *traumatic*, but never before one of *idiopathic* tetanus. Neither do I think such cases occur very frequently. In our hospital, this is only the third case since it was opened, fifty years ago; and though I may not have examined the Medical Journals very perfectly, to ascertain the experience of the profession on this point, the examination, so far as it has gone, confirms me in the above opinion. The cases narrated are not very numerous, and few of them well marked. Many, indeed, more nearly resemble hysteria than tetanus."

A reference to the Medical Journals, from the commencement of the present century, will, I believe, confirm the statement of Dr. Watson. In these circumstances, I send you the result of an experience here of about forty-four years, with a few incidental notes and cases. Previous, however, to my first *idiopathic* case, besides several examples of *traumatic* tetanus in the Peninsular war and in Kinross-shire, I had seen one case in a boy of fourteen, living near to Piershill Barracks, in the practice of my worthy master, the late Mr. J. H. Wishart, from blows from a carter's whip-shaft over the lumbar region; and in 1809 (being then a dresser), another case in the Royal Infirmary, under the care of Mr. (afterwards Sir William) Newbigging, in a lad of about twenty, from a slight puncture or scratch with a rusty nail, in the third joint of the little finger.* Both cases proved fatal about the end of the fifth or beginning of the sixth day. The first case of *idiopathic* tetanus was nearly as follows, occurring in 1828 or 1829:

Case 1.—John Hutton, cotton-weaver, Milnathort, æt. about 40, for some cause or other, removed for one afternoon, during damp weather, a linen or woollen apron, I forget which, used by operatives of this class. At first a slight chilliness was felt, which shortly afterwards was followed by rigors, and these again, in less than forty-eight hours, with stiffness of neck, and *trismus*, and general rigidity and contraction of the muscles of the trunk and both extremities, with a tendency to *opisthotonos;* death ensuing on the fifth day.

Case 2.—James Glass, æt. 28, foreman to Mr. Ireland, a farmer-proprietor on the western borders of Fifeshire, being in a state of profuse perspiration, incautiously put off his jacket and waistcoat, and during the two midday hours for dinner, so remained in the open air, the atmosphere being sultry and moist, after rather heavy rains. In less than two days he was seized with rigors, followed, as in Hutton's case, by the most decided symptoms of tetanus. He had been seen by Mr. White, a practitioner in Portmoak parish, before I was called to him,

---

* During this season, from the end of May to the middle of August, the weather being sultry, *hospital gangrene* very generally prevailed.

June 3, 1848, on the second day of the attack. On arrival, I found that a purgative had been given with moderate effect. The muscles of the jaw, neck, trunk, and both extremities, felt firm and contracted, the head and loins being drawn permanently backwards, and producing constriction over the respiratory organs. Pulse 90, and full. Countenance anxious, and indicating deep distress.

V. S. ad ℥xlvi; with no tendency to deliquium. Statim, Haust. cum. Tinct. Opii. ʒi. Calomel, gr. iij, et 2*da quaque hora*. h. s. Haust. cum. Tinct. Opii. ʒiss.

June 4.—No improvement, and constriction over chest increased. Emp. Lytt. sterno, et epigastrio. Calomel. Pulv. Ipecac. āā gr. iij. 3*tio quaque hora*. Vespere, et mane. Haust cum Tinct. Opii. ʒiss.

June 5 and 6.—Symptoms unabated, and he expired on the sixth day from the tetanic attack.

Being desirous of trying the effects of Ipecacuan and Calomel conjoined, I did not give the opiate to the extent that, perhaps, I might have done. And in a fatal *traumatic* case, in 1850, Tinct. Opii. was given, both by the mouth and as enema, so as very decidedly to *narcotize* the patient, a female of near sixty, with out any beneficial effects, save relief from pain. Since then, in a female of near sixty, attacked for the second time by exquisite *Angina Pectoris*, before my arrival Tinct. Opii. ʒij, and brandy had been taken. At the earnest request of the patient, an intelligent person, the Tinct. Opii. ʒij was repeated, Calomel gr. x, being added, and again repeated two several times without any visible effects; Tinct. Opii. ℥i, and Calomel gr. xxx, being thus taken within less than six hours without any effect; and powerful sinapisms being repeatedly applied, relief was obtained only after two bleedings of forty ounces each, within four hours. The blood, I may mention, at the end of two hours, saving a slight oozing from the surface of the coagulum, showed no proofs of serum. The patient was relieved, but slept none for twenty-four hours, no inconvenience being experienced from the opiate; a good example of the powers of the animal frame, *under spasmodic action*, in resisting the influence of narcotics. Two years after, this female had another similar attack, bleeding and leeching being conjoined. She is now in good health.

Mrs. B., æt. about 28, a farmer's wife. At the request of the relatives, I visited her along with Mr. Gall, surgeon, to whom, being first in attendance, I am indebted for *memoranda* of the case. Mrs. B. had previously borne four children, and, on 21st April, 1847, aborted in her fifth pregnancy, about the middle of the fifth month. The flooding was severe, but on 25th she got out of bed, and Mr. G.'s attendance was discontinued.

May 5th.—Mr. G.'s assistance was again required, stiffness of neck and threatenings of *trismus* having occurred on the preceding day, after having gone out of doors a very short distance, indeed, only a few yards. On 8th, my assistance was required, when all the symptoms of tetanus were completely developed. I saw her on the following day (9th), and calomel and opium having previously been freely given, partly as an *ultimum remedium*, and partly to move the bowels, which were obstinately costive, the tobacco injection was used with no good effects, and verifying the extreme caution required in the use of this powerful remedy. I then left her, in full expectation of death at an early period. She expired late on the evening of 10th, or very early on the morning of 11th May, her sufferings, notwithstanding the use of opium, in full doses, having been great.

Of cases of tetanus *after abortion*, Professor Simpson, in one of his most valuable "Contributions to Obstetric Pathology and Practice" (in Monthly Journal of Medical Science, February, 1854), has the following:—"In none of our modern obstetric books, nor in any of the various essays or works devoted to the consideration of abortion or puerperal diseases, is any illusion made, as far as I know, to the possible supervention of tetanus after miscarriage. It is a complication, however, which does occasionally take place; and it is always one very formidable in its character, and generally fatal in its issue." Two cases are then narrated similar to the above, with various others, all bearing on the same point. And I may here, in taking leave of this part of the subject, state that, having some months ago witnessed, in a fatal case of *traumatic* tetanus, at Milnathort, in a girl of seventeen years, the very marked relief from suffering afforded by the use of chloroform, I have often reflected that, had such means been then known, how much we should have been able to soothe, though it might not have cured the case of Mrs. B. and others.

In another case, the recovery from *traumatic* tetanus is worth noting.

Janet Dunn, æt. 6, a tall and slender girl, received from a female comrade, a blow on the dorsal region, with a shoemaker's hammer, followed by continued pain under the seat of the blow. After considerable suffering, at the end of eight days, *trismus*, followed by *lateral* tetanus or pleurosthotonos, ensued, but latterly ending in *opisthotonos*, so that she could be lifted from one position to another, like a curved deal board. She was then seen by Dr. Beveridge, late of E.I.C.S., and Mr. Fergusson, but both now deceased. In this state she lingered for thirteen days, great difficulty being experienced in getting down nourishment and cordials for support. At the end of thirteen days from the appearance of the tetanic symptoms, these rapidly abated on the discharge by the bowels of a large quantity of purulent matter, mixed with blood—no doubt, from an abscess near the spine, in its progress adhering to, and latterly opening into the intestine, and thus, perhaps, by counter-irritation and derivation, relieving the spinal irritation. This case occurred in September, 1820; the girl rapidly recovered, and is now alive, married, and the mother of several children.

In this case, the two things remarkable are, the occurrence of *pleurosthotonos*, a symptom of very rare occurrence, and the period of continuance of acute *traumatic* tetanus; as in this disease, experience shows that, in the great majority of cases, death generally takes place before the end of the fourth, or at most, fifth or sixth day.—*Edinburgh Med. Journal*, Nov., 1856.

6. On the Therapeutic Effects of Charcoal in Epidemics of Measles and Cholera. Extracted from a Report to Government for the year 1854. By Dr. *Wilson*, Colonial Surgeon, New Plymouth, New Zealand.—Throughout the course of the epidemic (measles), I never observed diarrhœa to be beneficially critical, but otherwise; and as invariably induced either by imprudent exposure in the early stages of the disease, by sudden check to perspiration; or, when the state of the patient, or unavoidable circumstances, came in the way of promoting

a perspirable state of skin. Hence, I never hesitated to check the laxity by such correctives as had also a sudorific tendency; and of these I found none so efficient as the ordinary wood *charcoal* in powder, though, had the prepared sort been within my reach, I should have preferred it as of more efficacy.

In the means of cure employed there was no novelty, excepting, as stated, the general substitution of *charcoal* for other remedies in those cases where diarrhœa supervened, and became the prominent object of attention; and that, when assiduously and sufficiently exhibited, never failed, within my knowledge, to have a promptly beneficial effect; and thus, being a medicine which I have often employed for many years past, occasionally extensively, and never without becoming more and more awakened to its importance as a remedial agent, I trust I may be excused if I occupy a space of this report by a cursory notice regarding it.

My attention was first drawn thereto by observing its powerfully deodorizing and cleansing properties, as an external application in fetid and gangrenous ulcers, but more especially, afterwards, by some observations of the late venerable Dr. Robert Jackson, in his "*Sketch of Febrile Diseases*," as regards its internal administration in dysentery, and allied affections of the alimentary canal.

Following in the footsteps of that very experienced physician, my first trials of *charcoal* as an internal remedy were in cases of simple acute dysentery; though I would observe that, as in the then sphere of my practice, dysentery was not a disease of frequent occurrence, my opportunities of testing the powers of the remedy were too limited to do more than to satisfy myself that there was no exaggeration in the Doctor's statements. So far, indeed, from this, that, as his experience had foretold, I found the result of its administration, in almost every case, the echo of his own words—"soothing and pleasant beyond the effect of common remedies, the excess of the evacuations becoming not only restrained, but the matter changed from blood and mucus, putrid and offensive, to figured feculence."

As illustrative of the words now quoted, I shall give here the short statement of a case to which I was called in consultation nearly twenty years ago. The patient was the child of the British consul at Port St. Mary, in Spain, was about five years of age, and had been under the influence of the disease two or three days before my visit. The family physician was a Spaniard of the *medicine expectante* species, and so leniently *Broussaian*, that he had confined his treatment o the disease to the application of a couple of leeches, and the ordering of a ptisan, composed of a solution of gum-arabic in an infusion of the blossoms of the common mallow, and of three other equally simple wild-flowers, which, together, and from time immemorial, over all the Peninsula, have maintained the pre-eminent designation of "*Las cuatro flores cardinales*," but which, according to my experience —and I drank the infusion plentifully, on one occasion, for months—has been acquired more likely from a harmless placebo quality, than from any curative virtue they have thus nominally got credit for. The father, an intelligent Englishman, had had the prudence, on the day of attack, to give the child a dose of castor oil; but, notwithstanding, the disease, at the time I saw the patient, was still crescent, face greatly flushed, fever high, tormina severe, and tenesmus urgently frequent; dejections, mucus and blood, and coming off in a very frothy state. He had not slept for nearly twenty-four hours, and in every way great distress was indicated. My prescription was novel, too, and did not meet the approval of the medical attendant; but, as I had the confidence of the parents, he did not persist in opposition. Accordingly, a tablespoonful of common levigated *charcoal* was rubbed up with the white of an egg, and these, being diffused in eight or ten ounces of chicken broth, the mixture was exhibited per anum. It was returned almost immediately, but a second, which followed so soon as it could be prepared, was retained, and now, in or less than five minutes the patient dozed off into a quiet, sound sleep, which continued uninterrupted for the space fully of five hours. Thus, as Dr. Jackson observes, in relating a similar case, "the relief was instant and perfect," the fever promptly abated, and, in short, I may sum up that the disease was at once arrested, thenceforward requiring, in ulterior treatment, only one or two laxative doses of castor oil, to perfect the cure.

But previously, by some years, to the occurrence of the case above narrated, I was induced, partly from circumstances adverted to in the report, to test the powers of *charcoal* as a prophylactic in yellow fever, at the outset of a very active epidemic of that disease, which occurred at Gibraltar, in the autumn of 1828. The experiments, instituted chiefly from appearances observed on *post-mortem* examination, were almost entirely confined to my own person; and these impressed on my mind a conviction that, though I was not exempted from attack, yet the mildness of that,—for it hindered me only one day from my hospital duty,—might properly be imputed to its influence. For, at the period thereof, namely, the first phasis of the epidemic's career, mild grades were not common; and my temperament—ardent, sanguineous—was, for such, unfavorable. Moreover, few were more exposed to the morbid cause, whether considered as infectious or as contagious; or to the predisposing causes, viz., fatigue, care, anxiety, and, no doubt, a common share of the prevailing panic. Yet many, greatly more favorably circumstanced, went emergently through, or fatally succumbed to, severe grades. I had no experience of it as a remedy in the developed disease, for I found patients, very probably from associating it with the black vomit, invariably averse to its administration; and as, in the after-progress of the epidemic, medical men had but little time to throw away in endeavors to overcome repugnances, or to note with attention the results of novelties, I was neither persevering nor general in my attempts. But I would observe, as discriminatory from dysentery, and from what the numerous autopsies demonstrated as to the state of the alimentary canal, that it is less to be depended on in this disease in the form of enema, than as administered in large doses, and frequently, by the mouth.

Until the summer of 1834, no opportunity offered to me of researching further as to the worth of *charcoal* administered internally. But, in that season, I happened to be a sojourner in that city of Andalusia, called Jerez, at the time it became subjected to a violent outburst and overspread of cholera—a disease, I may remark, I had rather longed to see in its epidemic form, and in that fierce instance of its workings, I may verily say, I was greatly more than gratified.

I was not, at the time of the occurrence, residing in Jerez in a professional capacity; but, under the strange circumstance that some of its *medicos*, early in the epidemic, *absconded* therefrom, and that, to meet the dire exigency of the visitation, not the tithe of an adequate number remained behind, it was no time to be simply a looker on. Accordingly, I proffered my services to the Government authorities, and an hospital being put under my charge, I had now, and in all ways, ample opportunity of acquiring some knowledge of the disease. By a reference, then, to my notes of that period, I may here introduce some detached remarks therefrom, relative to the use of *charcoal* in it, whether employed as a prophylactic or as a remedial agent.

"In the early part of the first stage, where there is only some anomalous feeling of *malaise*, attended with slight laxity of bowels, and which has obtained among the Spaniards the name of *colerina* or little cholera, a few doses of Lavitz's *prepared charcoal*, both by the mouth and by enema, and the exhibition on the succeeding day of an oil laxative, and living cautiously for a few days, are sufficient means, generally, to check the farther advance of the disease.

"Throughout the first stage of formal attack, when I could prevail on my patients to take *charcoal*, it was administered; but many objected to take it by the mouth, and it was not with the multitude I could insist, since I could not compel obedience, neither give time to superintend its necessarily frequent administration, nor place reliance on the quantity or *quality* given. From repeated experiments on myself and others, I am well assured that the latter is of considerable consequence, the remedial power being much deteriorated by exposure to the air. Therefore, it should not only be very carefully prepared, but be kept for use in accurately stoppered bottles or phials. I would farther observe that, hitherto, I have always used the charcoal prepared from the olive-root, which is a compact, hard wood—not, however, from choice, but merely from its being that which most conveniently offered. But I consider it as not improbable that experience may detect a difference of medicinal quality in opposite sorts. Thus we see gunpowder manufacturers adopt, as giving strength to their compound, charcoal made from the willow and such like light woods. Hence, we may argue that, if levity indicates, in the composition of that, a superiorly energizing effect, so may the charcoal of the willow, cork, or sponge, be found to be superiorly efficacious, as a medicine, to that prepared from the heavy woods.

As a prophylactic, after the publication of some instructions to the people, the charcoal gained a speedy and extraordinary reputation; and some of the blacksmiths, who got from me the mode of preparing it in large crucibles, acknowledged to the gain of seven and eight dollars a day by retailing it in small quantities to the multitudes of applicants. But, without having once tried whether it had or had not virtues, all my *confreres* were doggedly opposed to its administration; and much of the people, in some degree influenced, but greatly more from the novel, yet homely character of the article, as also from the required largeness and frequency of the dose, could not readily be brought to rely confidently on it as a remedial agent in so hurrying a disease. Ultimately, therefore, when, from the general explosion of the epidemic over the city, I was obliged to post from patient to patient, or rather from house to house, and to square, and lane, and street, it was only in very occasional cases that I could continue its use by the mouth. But from first to last, I persevered with, and met no balking to, its employment in the form of glyster. But it was given also, in numerous cases, by the mouth, and with such general good effect, as to have impressed me with the firm conviction that, in all stages of the disease, it is a most beneficial adjuvant, and anterior to the asphyxial stage, and in that of reaction, most eminently curative.

It may possess a specific febrifuge power or quality, but I am disposed to ascribe its virtues to its general antacid and absorbent property, and no less to its controlling and corrective power over all ferments—vinous, ascescent, and putrefactive. Hence, as it was my belief that foul, morbid fermentation in the stomach and bowels, was one of the most constant symptoms, and not the least of aggravating causes in the progression of the disease, I could see nothing more likely to correct and mitigate it than the agency of this medicine, and more so, as I found that, by restricting my patients to the use of those articles the least liable to run into the fermentative process, as *e.g.* rice water, linseed tea, and unleavened cakes or biscuit, were the most likely to effect a cure: while, on the other hand, inattention to such dieting, or deviation therefrom, were the most certain means of both accelerating and aggravating the disease.

Generally speaking, Spaniards are very averse to *post-mortem* examinations; but the hospital which I superintended, together with, at that sad time, the almost utter regardlessness of the living as to what became of the dead, afforded me every facility; and I availed myself thereof as often as my professional avocations would permit. And in corroboration of the opinion that a fœtid, fermentative state of the intestinal contents has greatly to do, if not in promoting, certainly in aggravating, the disease, I can affirm that, invariably, I found these, notwithstanding the gallons of watery fluid that had passed off during the course of the disease, most offensively feculent, and not unfrequently remarkably scybalous. I do not, of course, advance this last circumstance as extraordinary, supposing, as we may, that the fluids of the system poured into the alimentary canal, acted thereon simply as saline purgatives often do in dropsies, in the autopsies of which disease we often find impactions of scybalæ of very old date. Thus, in such, on one occasion, I was present at the detection of the seeds of the prickly pear, which, it was accurately ascertained, had been eaten six months before, notwithstanding that saline purgatives had repeatedly been used intermediately. But the important inference to be drawn from the circumstance of the retention of putrid feculent matter, and viewing this as the pabulum, is the necessity that exists of administering oily laxatives during the stage of reaction, or, at latest, so soon as that begins to abate; for I found, until I adopted this plan of treatment, that my cases of relapse were frequent, and not unusually fatal. But, what experience and *post-mortem* autopsy proved to me, could not be made alike obvious to my patients. Accordingly, I met with much, and very often fatally-ending opposition to this evacuating practice, as they could not be made to comprehend how a disease of so untowardly diarrhœtic a character, was to be otherwise than deteriorated by the administration of laxatives.

I have never had an opportunity of using *bone charcoal* internally, but, from its ascertained superior powers as a deodorizer, I consider that it deserves to be tested by experiment in such affections as I have here indicated.

I may add, in conclusion of this short notice regarding charcoal, that during the course of the Jerez epidemic now observed on, I was affected repeatedly with premonitory symptoms, and once to the degree of what, as already observed, was denominated by the Spaniards *colerina*. But, on every one of these occasions, I derived almost immediate relief from a dose or two thereof; and thus, no doubt, I escaped the endurance of a more formal attack.

Taken daily as a prophylactic, the only inconveniences complained of were its sudorific and constipating effects.

In gastrodynia, when ascescency is a prominent symptom, it gives, though only temporary, very prompt relief.

OBSTETRICS, &c.

1. CARBONIC ACID AS A LOCAL ANÆSTHETIC IN UTERINE DISEASES, &c.—Prof. Simpson made some remarks on this, at a recent meeting of the Obstetrical Society of Edinburgh. He said that he had used carbonic acid successfully, as a local anæsthetic, in neuralgia of the vagina and uterus, and in various morbid states and displacements of the pelvic organs, accompanied with pain and spasms. He had found it also sometimes of use in irritable states of the neighboring organs. Two years ago, he had under his care, from Canada, the wife of a medical gentleman, who was suffering much from that most distressing disease,—dysuria and irritability of the bladder. Many modes of treatment had been tried in vain. The injection of carbonic acid gas into the vaginal canal several times a day, at once procured relief, and ultimately effected a perfect cure. She has remained well since her return to America, and lately became a mother. Occasionally, relief follows immediately. In two or three instances, he stated he had seen the use of the gas continued daily for months, and that he had notes of one case where the patient was almost invalided, and almost entirely kept to the supine posture, for years, from feelings of pain and bearing down in the uterus and neighboring parts, particularly on attempting to sit or walk. Many modes of treatment were tried by himself and others, with little or no benefit. She has, however, at last regained in a great measure the power of progression, and freedom from suffering in the erect posture—a result which she herself ascribes to the local application of carbonic acid gas.

In practice, he generally used a common wine-bottle for the formation of the carbonic acid gas, and formed the gas by mixing in the bottle six drachms of crystallized tartaric acid with a solution of eight drachms of bicarbonate of soda, in six or seven ounces of water. A long, flexible caoutchouc tube conducts the gas from the bottle into the vagina. The cork fixing this tube into the mouth of the bottle should be adapted so as to prevent any escape of the gas by its sides. With this view, the cork should be perforated by a metallic tube, and covered externally with a layer of caoutchouc. In a case in which the two preceding children were both lost, he had successfully brought on premature labor at the eighth month, by the repeated application of carbonic acid gas to the vaginal canal with this apparatus—the carbonic acid not acting directly as a specific oxytoxic or excitor of uterine contraction, but indirectly only, by distending greatly and mechanically (as examination with the finger proved it to do) the vaginal canal, and ultimately separating, like the injection of water, the membranes from the cervix uteri.

The application of carbonic acid as a local anæsthetic to the uterine mucous surfaces, and to other parts of the body, is not a discovery of late times. He had found that in this, as in many other examples, that what appeared at first novel, was, when fully investigated, a practice known previously in its essence, and perhaps in its more minute details also. Besides, here as elsewhere, when once a principle is detected, such as the anæsthetic power of carbonic acid gas when applied topically, we can explain by it the good effects of modes of practice which previously, perhaps, we were inclined to ridicule and reject. The fact that carbonic acid, when locally applied to a mucous surface, acts as a sedative or anæsthetic, explains a practice common among the ancients, viz., Hippocrates, Paulus Ægineta, Rueff, Paré, etc., all of whom used to burn herbs, aromatic and medicinal, and convey the fumes, by means of tubes and appropriate apparatus, to the interior of the vagina; and, such vapor being loaded with carbonic acid, it is more than probable that if such treatment was effectual, it was through the anæsthetic properties of the gas here alluded to. Again, there is a modern practice much in vogue on the Continent, of injecting the vagina, etc, with the German waters of Nuheim, Marienbad, etc.; the utility of the practice, which Dr. S. has been assured by his friend, Dr. Funck, of Frankfort, is most marked in some diseased states, will find its true explanation in the local anaesthetic effect of carbonic acid, as these waters contain a large quantity of the gas. A knowledge of the topical effects of carbonic acid serves, perhaps, also to afford an explanation of other points in common therapeutics; as, for example, its action in subduing gastric and intestinal irritation. Hence the use of effervescing draughts, aerated waters, etc., in gastric irritability and nausea; perhaps the antacid action of the alkali may have some effect, but most likely it is the anæsthetic properties of the carbonic acid gas. The sedative and curative effects of injections into the rectum of carbonic acid gas in dysentery have a similar explanation, and serve to corroborate this view of its action. As an example of its use as a local anæsthetic to a cutaneous surface, Dr. S. alluded to the *cataplasma cerevisiæ*, or yeast poultice, which exhales from its surface a quantity of the gas. It was commonly applied to irritable and sloughing sores, and its soothing, healing, and antiseptic properties were doubtless owing to the carbonic acid gas. As an anæsthetic application to cancerous ulcers, the effects of carbonic acid gas are excellent. Dr. Ewart, of Bath, says, "he has kept a person in ease and comfort, who, for so great a length of time before, had known only agony and torture." "What," he elsewhere observes, "strikes us in the two preceding cases with the greatest astonishment, is the *almost instantaneous relief of pain* which *never failed to follow the application of the gas*." In reference to the effects of carbonic acid upon raw surfaces and wounds, Dr. Ingenhouz mentioned to Beddoes the following experiment: "Blister your finger, so as to lay bare the naked and sensible skin. The contact of air will produce pain; put your finger into vital air (oxygen), and this will produce more pain; introduce it into fixed or azotic air (carbonic acid or nitrogen), and the pain will diminish or cease." In relation to this statement, Dr. Beddoes informs us that he made the following experiments on three different persons: *First.* The raised epidermis of a blistered finger, after all action from the cantharides had ceased, was cut away in carbonic acid gas. No pain was felt. *Secondly.* A second blister being opened in common air, smarting pain came on. In a bladder of fixed air, this pain soon went off. *Thirdly.* After opening a third blister, the finger was instantly plunged into oxygen. It felt as when salt is sprinkled on a cut. In carbonic acid gas, the pain, in two minutes, quite subsided; but returned when the denuded skin was again exposed to the atmosphere. If there be no source of fallacy in these experiments, they certainly point to one kind of improvement in the treatment of some painful burns, wounds, etc.; for they appear to suggest the possibility of the suffering which is attendant on such injuries being controlled and cancelled by keeping the pained parts in contact with carbonic acid, or with some other gas or fluid capable of acting as a local anæsthetic. If the reports of Ewart, Beddoes, and Fourcroy are correct, we ought, also, indeed, to find carbonic acid an excellent application even as far as the mere healing and cicatrization of the broken surfaces are concerned.—*Edinburgh Med. Journ.*, July, 1856.

2. EFFECT OF CARBONIC ACID ON THE GRAVID UTERUS.—The *Union Medicale*, for August 12, contains an account of a case in which carbonic acid gas, injected into the vagina, was successfully employed to effect premature delivery. The gas was generated in a glass vessel, by means of the action of acetic acid on the bicarbonate of soda, and conducted into the vagina by means of an elastic tube. A glass speculum was introduced into the vagina, and in order to prevent the carbonic acid from escaping too freely, the tube was passed through a cork which closed the external opening of the speculum. The injection of the acid was followed by a disagreeable pricking sensation in the vagina. After the third application, some pain was felt in the umbilical region, and the cervix uteri became softened. Six applications were made, of from twenty to thirty minutes each, one at night and one in the morning; after the last one, uterine contractions came on, and delivery followed. The result of this case is very satisfactory, so far as it goes, and is worthy of trial in cases where it becomes necessary to procure premature delivery, especially as it occasions no harm either to mother or child, and, at the worst, only causes the delay of a few days.—*Boston Med. and Surg. Journ. Dec.* 4, 1856.

3. CARBONIC ACID AS A MEANS OF INDUCING PREMATURE LABOR.—Scanzoni, moved by the observation of Brown-Sequard, that carbonic acid irritates the smooth muscular fibre to contraction, and convinced of the insufficiency of his method of exciting labor by suction of the breast, has sought in carbonic acid a new means of exciting labor-pains. In a very small primipara, aged twenty-six, premature labor was indicated by contraction of the pelvis. She was in the 32d-34th week of gestation. The portio vaginalis was five to six inches long, tolerably resistant; outer os uteri fast closed; the head floated; the fœtal pulse faintly heard. On the 2d February, the first application of twenty minutes without subjective or objective alteration.

3d February, eight A. M., for twenty-five minutes, and in the evening, thirty minutes. During the injection, pricking in the vagina; during the day often stinging in the region of the umbilicus; in the evening the portio vaginalis was loosened. The stingings were renewed in the night.

4th Feb. Morning and evening, each time half an hour. Pricking in the vagina. In the course of the day, the os uteri admitted the finger through, and the presenting head could be reached. In the night labor-like pains, and towards morning lively contractions of the uterus, which latter ceased.

5th Feb. Pricking during the thirty minutes of the injection. The os was opened, yielding, dilatable. Increased vaginal secretion. About noon, painful persisting contractions; about half-past six P. M., rupture of membranes; seven P. M., birth of a living child over three pounds weight. Slight metrorrhagia, which ceased after the removal of the placenta. Recovery good.

Apparatus.—A glass vessel, holding a quart, is fitted with an air-tight cork-stopper, in which are two openings. Through one opening runs a glass tube provided with a funnel; through the other runs a horn tube fitted with an elastic tube three feet long, which ends in a bent uterine tube. Two tablespoonfuls of bicarbonate of soda, dissolved in twelve ounces of water, and a little vinegar, serve to supply the carbonic acid. A conical glass speculum and the uterine tube are introduced into the vagina, the tube being surrounded by a cork filling up the speculum, so as to retain the carbonic acid in the vagina.—*Brit. and For. Med.-Chir. Rev.*, Oct., 1856.

4. STRICTURE OF THE UTERUS.—"Dr. Lehmann, of Amsterdam, gives a minute analysis of the forms of irregular uterine contraction, under the name of stricture of the uterus. Stricture of the uterus, he says, a partial tonic spasm, happens almost exclusively in the direction of the transverse fibres, especially in those places where the circular fibres predominate, at the lower part of the body of the womb, at the os internum and os externum uteri, and in the neighborhood of the Fallopian tubes.

"Tonic spasm of the lower part of the body causes a ring or band-like contraction more or less broad, which, when well developed, can be felt through the abdominal walls. The uterus seems to be irregularly shaped lengthwise, reaches to the pit of the stomach, and is often divided into two unequal halves, so that the lower half is separated like a strongly-distended urinary bladder. The introduction of the hand makes the diagnosis clearer; mostly, a small, smooth, defined line, stronger in front, can be felt. The spasm-affected part is very painful to the touch, and the pain, as well as the contraction, remains beyond the labor-pain. The conclusion is erroneous, that these strictures happen only in the fifth stage; they are observed nearly as often in the third, and frequently they arise first when the head and shoulders are behind, or when, in a breech presentation, the breech is partly born. This condition is known by the following marks: in spite of strong pains the presenting part recedes, and although no obvious obstruction exists in the pelvis. When the head presents, it is found that the pains do not drive it down on the os uteri, showing that the obstruction does not lie here, but higher up. If, in such a case, through wrong diagnosis, forceps be used, the blades pass readily through the os uteri, but in pressing deeper strike upon an obstacle which cannot be overcome without great pain. If the application of the forceps be accomplished, it is found on each extractive effort, that the uterus is dragged down too. If turning is tried, the stricture is much more easily recognized. The hand easily penetrates the cervix uteri, but the fingers are with difficulty squeezed between fœtus and uterus, and if the whole hand be passed through, it is quickly paralyzed by the compression. The stricture is more easily known in the fifth stage, when the fingers may be passed to the contracted part, and the hour-glass form recognized.

The *spasmodic stricture of the inner mouth of the womb* is most frequent in the fifth stage, but rare during the extrusion of the child. It is recognized by the same signs, only nothing can be felt through the abdominal walls; on the other hand, it is easily detected by vaginal examination. The os uteri externum may be flaccid and widely open, without trace of contraction.

The *spasmodic stricture of the os uteri externum* is the least dangerous form. Early in labor it is clear to the observer that the pains are irregular and painful, the patient is restless and uncomfortable. The strong boring pains are felt, chiefly deep in the hypogastrium, and spread towards the sacrum and thighs in the course of the ischiatic nerve. The vagina is mostly hot, dry, and sensitive; the os uteri remains deep in the pelvis, and has very thin sharp edges, which, even in the interval of contraction, are stretched like a cord. The presenting part lies firmly on the lower segment of the womb, and even if a little engaged in the os uteri, a large swelling is caused by the pressure of the stretched edge. The sphincters in the neighborhood often share the spasm, and dysuria and tenesmus follow; or there arises, through the extension to the other nerve-spheres, hiccough, vomiting, cough, anxiety, and oppression, in the highest degree; the central nervous system is even affected; syncope, headache, delirium, sopor, convulsions, whilst, although the pains may continue, what is called metastasis takes place.

The *spasm of the mouths of the Fallopian tubes* only occurs in the placental stage. The womb assumes a remarkably oblique shape, as if the affected part had been lengthened out like a horn, as can be felt as well as seen.

Uterine strictures, when they occur, must be regarded as consequences of irregular contraction; but they may exist, according to Lehmann, as a real alteration of tissue at the affected part; this may have arisen before the beginning of the stricture, or may follow upon a long-continued contraction, through which stasis in the uterine vessels, hyperæmia and inflammation of the whole organ may be easily developed. Not seldom it is observed that an ordinary clonic spasm passes gradually into a stricture, especially in the lowest part of the womb. Still more frequently it happens that, in a clonic spasm, at the time when the child is extruded, a uterine stricture follows in the fifth stage. But the predisposition to stricture often rests in the uterus, as in hyperæsthesia, through a rheumatic or inflammatory action, when an alteration of tissue may have existed during pregnancy. Besides this, strictures may arise, or become worse, through bad presentations of the child, after premature escape of the liquor amnii, through irritation of the os uteri from the frequent exploration, or instrumental interference.

Stricture of the uteri always perverts the course of labor, but naturally according to the degree, duration, seat, and stage of labor. The effect of the compression is also severely felt by the child. Bruises are sometimes seen, and asphyxia; the liver has been known to have burst. The uterine walls may be rent.

Lehmann advises to bring about retraction of stricture by venesection, opium, warm baths, belladonna injections. He has found ether and chloroform without influence.—*Nederl. Zigdschr.—Ibid.*

5. CRIMINAL ABORTION—PERITONITIS.—At a recent meeting of the New York Pathological Society, Dr. T. C. Finnell presented the uterus removed from a woman upon whom abortion had been produced, and who subsequently died of *peritonitis*, with the following account:

Matilda McCarty, aged nineteen, being about four months advanced in gestation, was desirous of having abortion produced. She was advised to use a vapor bath of pennyroyal and tansy, and remain in the bath at least twenty minutes, then walk to Forty-second Street and back again to her residence, in Spring Street, as quickly as possible; also to drink freely of gin and tansy before leaving the house. This was on the 7th of March. On returning from her walk, she complained of great distension of the abdomen by flatus, inability to walk, and a feeling of great prostration. At the end of a week, labor pains came on, and she was soon delivered of a dead fœtus. On the third day after delivery, she seemed well enough to be up. At the end of the week she was seized with a chill, followed by fever, which terminated in death, on the 28th of March, three weeks after delivery. The *autopsy* showed extensive peritonitis, with adhesion of all the abdominal organs to each other. About a pint of pus was in the pelvis, surrounding the uterus.—*N. J. Med. and Surg. Rep.*, Oct. 1856.

6. ON THE DEVELOPMENT AND DECLINE OF THE FUNCTION OF MENSTRUATION WHEN NOT IN CORRESPONDENCE WITH THE GENERAL SYSTEM. By *James Allen, M.R.C.S.*—The phases of disease are so varied, that sometimes, by changing our stand-point, we extend our survey, and bring out different combinations, which may help to more distinct comprehension of the laws which regulate life and health. The following observations, on a class of diseases which are very common, I trust may prove interesting, as contemplated from a new point of view.

It is an undoubted fact, that the growth or development of parts is by no means uniform, regular, and consentaneous; and that, while we have clear and distinct laws of animal growth, in which we see at various periods the regular development of parts, and the organs by degrees becoming adapted to their functions, yet these are by no means uniform in their manifestations. It would form an interesting inquiry to ascertain how far these varieties, in their different combinations, influence the health of the subject; also, how, by their correspondence or incongruity, they give rise to varying phenomena.

In childhood we have fewer discrepancies than in youth; still, now and then, we meet with marked cases both of deficiency and precocity; in some, decided excess in the circulation, tending to affections of excitement; in others, defective powers of assimilation; in some, defective formation of bone, yet with no lack of muscular power; in others, power with no apparent will, etc. In youth, these examples are more palpable; here we may see growth in excess, generally without strength to resist external influences, and the subject succumbs to disease; excessive prolongation of limb, with narrow chest, or feeble digestive power, whereby the balance of health is soon destroyed. But the most marked are, where we have interesting cerebral development, at the expense of disease or deformity. We may have many examples of want of correspondence of organs in their development, until the subject arrives at that period when it may be said to have attained maturity.

The organs involved in the functions of menstruation are liable to this irregularity; but passing those extremes that partake more of monstrosities, I would notice such as occur about the ordinary periods when the uterine system does not correspond with the general system. Without attempting to particularize all the causes in which they originate I may mention climate, habit, occupation, social and domestic circumstances, and individual idiosyncrasies, or some morbid action retarding general or particular development.

We will consider those in which the general system takes the precedency, and, in our climate, I believe this to be the most frequent. Here we have the aspect of the woman with much of the artlessness of the girl, wanting the shyness so peculiar to puberty; good health is enjoyed until that period arrives when the system is so advanced as to require the call made upon it by the uterus in menstruation, but, development being incomplete, the system soon begins to feel the burden, and then we have a variety of affections. Diagnosis is here difficult, yet all-important; but where we can trace regular development up to a certain point, without the signs of puberty, then we must watch the character of the first aberration of health, and we shall find that slight but decided determination to some part, with excitement, will be the result; afterwards more decided changes appear, the plethoric condition of the vascular system in many is very prominent, and we have hemorrhage, active or passive congestions, inflammations, etc. Where there is a strong constitutional diathesis there is danger of active disease being set up; and here, for practical purposes, it is of great importance to distinguish cause from effect, and to apprehend clearly how morbid influences act and react, lest we should prescribe for symptoms merely, and overlook the first link in the chain. Many strumous affections have here their origin, in organs or structures where congestion first sets up morbid action, and then, in some instances, this reacts on the system to suspend or arrest further development. Therefore, in treatment we must be careful not to stop the regular development in our efforts to relieve the oppressed organs; when both have due attention we shall best succeed. There is one practical consideration needful in all cases, and that is, when the morbid action does not relieve the system to the right extent of the burden with which it is surcharged; then our object should be to assist nature, and this may be accomplished best by small bleedings, from a few drachms to two or three ounces, and this repeatedly; and, when we have succeeded thus in arresting tendency to disease, we must relieve the system by small abstractions periodically, until nature relieves herself.

Under such combinations I would suggest a caution as to stimulants, or iron as an emmenagogue, lest we should further depress some oppressed organ by attempting to excite uterine discharge. In these examples of lack of correspondence, according to my experience, nothing equals small repeated bleedings, with very mild aperients.

When we meet with cases the reverse of these we have just noticed, where the uterine system takes the precedence, we have all the changes common to womanhood in manner and bearing, with mammæ developed and other signs of puberty;

but this generally with a stinted growth, and a puny and sickly aspect. The subject is characterized by great nervous sensibility, and is easily depressed both in mind and body. Here neuralgia in various forms is common, inflammations rare, and, if there is fever, it assumes a low type; not many strumous affections as the result, though sometimes spinal complaints. The regular menstrual discharge, so often hailed by mothers, is here an evil; and, while we should use no direct means to stop this, yet, if tonics and astringents do so, it is generally to the advantage of the patient; regular sluicing, with cold salt and water, is very beneficial, and whatever will invigorate and support the system should be adopted. I have a high opinion of malt liquor in such cases, not merely at meals, but given at stated intervals in measured quantities, as ordinary tonics. Cod-liver oil is here of great value; iron is questionable, but quinine and acids seldom wrong. All that can be done by nutritious diet must be attempted, with pure air and change of place, when convenient. The great evil such cases exhibit is, that generally a stop is put to more perfect development, and then we have illustrations of ill-formed, disproportioned figures, for which I know no remedy.

The decline of life, like growth, has its irregularities as to degree in different organs; and, could we more easily distinguish where they first fail, quite independent of the influence of accident or disease during life, we should frequently be the better able to advise wisely for our patients. In some instances we see the digestive organs first fail; in others, the lungs, the heart, or the head—all corresponding to the irregularities of development, which we would do well more carefully to investigate.

I would now call attention to a few of the circumstances which affect women on the decline of menstruation, when the uterine and the general systems lack correspondence. Without attempting to generalize, I would merely give what has more immediately fallen under my own observation. And, first, I would remark, that I have seen more cases in which the uterine organs have first declined in power, than the system generally. In these examples we have a great variety of disorders; yet, when clearly distinguished as to origin, they are very manageable. The characteristic fact under these circumstances is, that the system becomes oppressed from a surcharge on the circulation, which the uterine organs can no longer carry off—then plethora, local or general inflammations, or congestions, are the common result. Much has been written or said about the displacement and inflammatory theory, but I am persuaded that many of these disputed cases have their origin in hypertrophy, consequent upon the very condition just supposed; and congestion, not inflammation, produces these changes, which, when duly traced, will be found thus to arise; and the origin indicates the treatment. And here I hesitate not to affirm, that nothing will relieve the patient like regular periodic bleeding, and that, not necessarily from the os uteri, but, when leeches are employed, just within the labia pudendi; if by the lancet, two or three ounces every three weeks will do more than all other means combined; in fact, artificially unburden the system, and *vis medicatrix naturæ* will rectify all the evils if they have not been persistent too long. Functional derangement consequent upon this condition is most successfully treated by repeated bleedings to small amount, especially when the head and stomach suffer.

Another class of ills have here their origin, but are very different in their character; and mistakes, I believe, are common, viz., where you have repeated, irregular, large discharges of blood, as menstruation declines, from the fact of the uterine organs so failing in power as not to accomplish their healthy and due discharge; but from loss of tone the vessels are not able to bear the ordinary congestion and strain upon them, but yield irregularly, and pour out large and abnormal quantities, rendering them less able to resist in the future; and in many instances the patient is safe only when the system has been thus brought down to the level of the feeble uterine organs. In such cases a clear apprehension of the condition points to the treatment. These failing organs, when the subject of repeated determinations, no doubt often have degeneration of tissue, and this lays the foundation for organic disease. These large discharges differ from ordinary catamenia, not only in character, but in quantity, and especially in time. These combinations are, I believe, the source of most uterine diseases met with at this period of life; for, according to my experience, the continuance of menstruation beyond the due period is fraught with many ills to the system generally, but few to the organs themselves.

In examples where we meet with decline of the general powers of the system, the uterine being entire, we have the subject put on the appearance of premature old age, weak, languid, and rapidly altered aspect; very nervous, but few cases of inflammation, or acute forms of disease. To sustain the system must be our object; cold bathing seldom answers, but change from place to place is very decidedly useful.

I have thus attempted briefly to point out some of the disorders consequent on the want of correspondence between the general and uterine systems, and believe in this way we get a solution of many of the phenomena attendant thereon, as well as having the best treatment indicated; I also feel assured this view assists us in the better understanding of many of the abnormal states of menstruation, at all periods, as, amenorrhea, dysmenorrhea, menorrhagia, sterility, etc.

All must admit "that, to arrange under new combinations what is already known to us, is often in itself a source of fresh knowledge, or a valuable means of correcting previous error."

In conclusion, I would express a hope that this mere outline may be suggestive to some to bring out more prominently all the features and combinations presented by this interesting class of affections.—*Med. Times and Gazette*, Dec. 6, 1856.

YORK, November 5, 1856.

7. A PATULOUS STATE OF THE OS UTERI, AND ITS RELATION TO ABORTION.—At a late meeting of the Western Medical and Surgical Society of London, Mr. Ellis, after remarking upon the frequency of abortion, and its effects upon the health of the patients, alluded to the habit into which the uterus falls of casting off its contents prematurely, and mentioned one case in which the patient aborted 27 times. The causes of abortion may be ovaline or maternal, the latter being impoverished health, leucorrhœa, uterine irritation, or irritation caused from the bladder or rectum. But he alluded more especially to a patulous state of the os uteri as a cause, in which the proper natural plug from the decidua was absent.

In these cases the os uteri was open, and readily allowed the bag of membranes to protrude, and as surely as they did so, so certainly would the uterus be excited and contract. An analogous case was seen where premature labor was induced by the introduction of a piece of sponge into the upper portion of the vagina, and which by its dilatation had the effect of opening the os uteri. The causes of this state, he considered to result from inflammation, and structural changes, and in its treatment, recommended rest, and the occasional use of nitrate of silver to the patulous os uteri.—*Ibid.*

8. RULES FOR THE RESUSCITATION OF STILL-BORN INFANTS.—Dr. Marshall Hall also proposes that the plan which he has recommended for the recovery of the apparently drowned should be employed for the resuscitation of infants born at maturity, but apparently dead. The following are his "rules;" we re-publish them from the Lancet, of November 29th (p. 601):

"1. The infant must be placed in the prone position, in order that all fluids, which might obstruct the entrance into the windpipe, may flow away.

"2. Nature's mode of operation being to impress the trifacial and cutaneous nerves, the external *excitors* of respiration, by the external cold, we must dash a few drops of cold water on the face and the general surface.

"3. We must proceed, having failed to *excite* respiration, to *imitate* the respiratory movements:

"This must not be done by *any forcing* means; even the human breath, forced into the infant's lips, may *tear* the delicate tissue of the fœtal lungs. We must, on the contrary, adopt some measure of *drawing* the air into the lungs. This is effectually accomplished by first placing the little patient briskly in the prone position, to clear the fauces; then pressing gently on the back; and then removing that pressure, and turning it gently on the side and a little beyond.

"4. Meantime, the limbs are to be rubbed, with gentle pressure, upwards, to promote the circulation, by propelling the venous blood towards the heart.

"5. At proper intervals, we must again endeavor to *excite* the respiration physiologically.

"The infant is to be placed with the face prone, and douched alternately and rapidly with water of the temperatures of 60° and 100° Fahr.

"High and low temperatures are equally excitants of the reflex function of respiration, and their power, within physiological limits, is in proportion to the difference of those temperatures."

The successful application of these rules may be already announced, as will be seen by the following letter addressed by Mr. J. T. WALLER to Dr. MARSHALL HALL:—

FLEGG BURGH, NORFOLK, Dec. 4, 1856.

DEAR SIR:—I was so delighted with a report in the Lancet of Nov. 29th, of a paper read by you before the Harveian Society, on the Asphyxia of Infants and the Treatment, that I hope you will excuse the liberty I have taken in sending the following brief details. I trust you remember me as a pupil of yours at Webb Street, some twenty years ago.

On Tuesday, the 23d ult., at seven P. M., I was called to Mrs. P——, aged forty-five, in labor with her first child. On the 24th, at six A. M., I delivered her, with a forceps, of a very fine female child, but in a state of complete asphyxia. Your "Ready Method" was adopted. As soon as I had tied the cord, I exposed the child freely to the cool air, cleared the mouth and nostrils, turned the face and chest downwards, and began the alternate movements of the body on to the side and face, repeating them every ten seconds; blowing the cold air on the child with the bellows, alternately with the application of flannels dipped in hot water to the chest. *For a quarter of an hour the case appeared quite hopeless;* soon afterwards, the infant began to respire, about once in a minute; and from that time it improved gradually, so that in about *two hours* it was perfectly recovered.

After reading your paper on the subject, and this confirmation of your views, I shall feel quite satisfied in pursuing this course to the exclusion of all others—viz., the hot-bath, and inflation of the lungs with a tube or the mouth, with which I was never very successful; and you may be sure that I have had no want of experience when I inform you that I attend on an average more than a hundred labors in one year.

I am, dear Sir, truly yours,
JOHN T. WALLER.

MARSHALL HALL, Esq., M.D., F.R.S.,
London.

Lancet, Dec. 13, 1856.

Editors' Table.

The opening of a new year, always marked by an interchange of friendly greeting, and by budding hopes of future advantages and distinction, is not without its influence on ourselves. To our readers we offer more than the expression of our good wishes for their welfare and the maturity of their hopes, —we offer them a new Journal, fraught with the productions of many minds, each bearing evidence of careful and conscientious elaboration. In exchange, we hope to receive a frank approval of our efforts on behalf of all those to whom we now address ourselves, and a due measure of support at their hands. They can aid us in different ways—by their names, and the exercise of their pens for the promotion, not of our cause alone, nor of theirs alone, but of the common cause. We volunteer to lead the way, but with no desire or ambition to be at the head of a forlorn hope. We would rather be joined by a glad array of those who, on becoming members of the profession, virtually enlisted to serve under the same banner with ourselves, for the protection of the weak, the preservation of the strong, and the driving out of diseases from their many fastnesses.

Happily, favoring circumstances allow us to believe that we shall be thus supported in our onward course. The union of the Louisville Review with the Philadelphia Medical Examiner gives encouragement and promise of strength, which it will be our earnest endeavor to realize, at least to some extent. Confiding in a continuation of the goodwill of the friends who have sustained us from the beginning in the Review, are we too sanguine in our speaking in advance of our new constituents who were formerly those of the Examiner, and in counting upon their adhesion to its chosen successor and a new ally under a different patronymic? The industry, good taste, sound ethics, punctuality, and gentlemanly bearing of the late editor, Dr. S. W. Hollingsworth, will not be lost on the conductors of the North American Medico-Chirurgical Review; and although his retirement from the editorial corps deprives us of his aid in this way, we shall foster the hope that he will, as occasion may call forth, give us the benefit of his practical knowledge and medical lore.

For ourselves, we are fully sensible of the heavy responsibility incident to our present position; but we derive encouragement from the reflection, that neither change of place nor the expectation of a reinforcement of new friends, require any change in our principles of action, or any modified programme with a view of propitiating a particular interest or party. If our passwords are now no longer Louisville or Philadelphia, as applied to the Review and the Examiner, we shall have none the less regard for the honor and elevated standing of the profession in these cities than before; and while our love for the South and West is as ardent as ever, our regard for the East will be not less strong than it is in those "to the manor born." We do not mean that our course shall be marked by any civic or sectional bias, nor, *a fortiori*, by personal predilections, and still less by personal prejudices, if we should ever be so unfortunate to feel them. We make our appeal to the whole country, on the expectation that it will be responded to in such a manner as to justify the title of our Journal, and to make it the vehicle of sound doctrines and available practice. And in this connection we beg leave to say a few words in answer to the question:

WHAT IS THE PROPER SPHERE OF EDITORIAL LABOR?

We propose no homily on the duties and responsibilities of editorial life; but we would like, for a moment, to glance over the field which we propose to occupy.

Aside from the discussion of matters purely scientific, the medical periodical has lately found, in the profession itself, the source of an occasional and profitable creed of doctrine. In spite of the woful Jeremiads so unceasingly chanted in our ears about the spread of quackery, and the decline of legitimate medicine in the affections of the American public, we are inclined to take a cheerful view of the present position of the profession in this country. No ululation to the contrary can convince us that it lacks in healthful growth and energy. Amid all the untrammelled license, the deep-rooted scepticism born of free institutions, our claim to respectable antiquity, and to a veneration based on what our fathers have done, goes for nothing; and yet, under such circumstances, only three-fourths of a century have sufficed to build up a profession, united, strong, energetic, having already a glorious history, having before it a still more glorious future. Out of our poverty in government patronage and support, our colonial position, our want of great institutions of learning, our expensive system of medical teaching, we have builded up an honest claim on the gratitude of posterity, and the support of the present generation.

The fellowship of the profession should be its chiefest pride, as it is its strongest bulwark. The rapid westward stride of civilization builds up new states in a day, but before the haste of politicians or the rush of emigration can frame a constitution, the physicians are there, have met and organized a society, and find willing entrance for their delegates in our national medical congress. Unprotected by legislation, we find a remedy and a substitute in those affiliations which band us together in a common brotherhood.

The power of this associated effort should not be lightly estimated, and who shall say that in its guidance the press shall have no influence? That is a mistaken sentiment which would exclude medical policy from our medical journals; which would confine them to scientific discussion, and leave our vast and complicated organization to work on, unwatched and uncared for. The success and respectability of the profession, its very attainments in learning, depend, to no small extent, upon the continued prosperity of our city, county, state, and national societies. They are our strongholds, and whatever weakens them, strikes at the heart of our success. Imagine for a moment that all these organizations were disbanded, and the profession turned loose upon the world, each man to fight his own battles, with only his own sense of propriety for his guide. Should we not regret the loss of that feeling of fellowship with which the physician of Maine now takes the hand of one of California? Should we not feel the want of control over those restless or dishonorable spirits, which a body so large as ours must necessarily have among its members?

We need not multiply reasons. These organizations, which we so highly prize, must be fostered and cared for—their purity of purpose must be preserved, they must not become subservient to local interest, their honors must be conferred only on the worthy—those who have earned them by well-doing—and they must seek out new channels of influence, and be made the nursing-mothers of science.

Unfortunately, our profession, so noble in the aggregate, is made up of human hearts. The personal ambitions, the hatreds and jealousies of active competition, the favoritism of cliques, will creep into ours as into all other organizations; and it is one of the proudest features of the profession, that so little evidence of the lower passions of humanity has shown itself, as yet, in them. Thus far, their history is grand—not faultless, not without matters for regret—but still wonderful in their purity, when the paths of chicanery have been left so open.

To maintain and extend this purity is one of our dearest hopes. We would not look harshly on the motives which have in some instances led to its violation. But we do need a firm, calm censor, one who has strength and courage to speak out when a word spoken in season may work for good; we need the guiding power, the open discussion of the press, to enlighten professional sentiment.

Let us be understood. We detest the "fearless editor," *par excellence;* that truculent fellow who announces that his mission is reform, that an Augean stable is to be cleansed, and that he is the Herculean scavenger whose arm shall do it; who labors under the impression that somebody should be held up to public scorn and indignation in every issue; and that the best way to correct an evil is by irritating abuse of every one who has the power to correct it. But if this is not our policy, we are equally at variance with that feeble selfishness which has no voice, that facile soul which has no principles. We would see the medical journalist bold and manly; but we would have him recollect that an evil is an evil in and of itself, and that, in any attempt to reform it, the fewer personal feelings involved, the greater the chance of success. The old catechetical distinction between the sin and the sinner was founded on good, strong, Christian common sense and shrewdness. There is a deep philosophy of human nature in its teachings.

Our colleges, those noble institutions, built up, not from the wealth of the state' as pensions and sinecures for lazy favorites, but out of their own necessity, and the inevitable pecuniary prosperity of that which is needed, are, with all their excellencies, a little too independent for the safety of the profession. They acknowledge no control but that of professional sentiment. How shall this find expression? How may public opinion be brought to bear upon them, to keep them off the track of unlicensed peddling of diplomas; and, stimulating their competitions, force them to elevate higher and higher their standard for the doctorate? Only through the press. It speaks with the voice of a thousand men; and no college in the land is strong enough to withstand its censure, if that censure be just and calm.

Our system of education is the natural outgrowth of our national character. Free, voluntary, and strong in its individuality, it is the one best adapted to the American mind. Each school relying on its merits for its existence, an active competition is engendered, which, healthful in itself, is liable to excesses. A check here, or encouragement there, is needed; above all, the system itself should be preserved. All our usefulness, our proud reputation abroad, has grown from it; and we should be cautious how we permit the innovations of a too rapid democracy, or substitute for it the methods of the transatlantic world. Our literature, the weakest point in our national character, is another field for editorial labor. The detail of criticism belongs to our department of reviews, but the broad, general principles which should govern criticism itself, belong here in our editorial pages. We risk nothing in the assertion that the profession of the United States is better educated than that of France; but can we, with any propriety, claim that we approach them in literary merit? The learning of our country is diffused; there is a better average and a better aggregate here than in any other; but alas, the teachers, the slaves of the lamp, are wanting. We have but few names with which we can cross the Atlantic, and say: "These are our stars—show us brighter if you can!"

But we have a few. How shall we multiply them, how temper down the passion for notoriety, and instil in its stead a love for well-earned, honest fame? Shall we, in our love for American literature, our ardent desire to see it usurp the place of European reprints in our libraries, and our disgust at our colonial position, take to our arms every maker of a book, and write his Avatar under the name of a review? Shall we pet compilers, endorse stupidity, and cackle in triumph over the soft-shelled eggs of unfledged aspirants to literary honors?

On the other hand, shall we systematically depreciate the American author? Shall we write "Nazareth" over the American coat of arms, and say, "No good can come from hence?"

Much can be gained, not only by sound, intelligent, and honest reviews of new books, but by the establishment of some definite policy with regard to their encouragement. American writers, and publishers as well, require fair treatment and a liberal policy.

But who shall guard the shepherds? What necessity for new journals, when our exchange list numbers some two score, all published within the broad area of our country? Journalism itself is open to improvement. Few of our periodicals are rich enough to be independent. They are born most commonly, not because they are needed, but because their existence is a necessity to some school or some clique. Their multiplication is an evil; not but that the poorest has its sphere of usefulness, but because they occupy the attention of the profession, and distract it from better publications. We shall not be accused of murderous designs upon the existence of our cotemporaries, or of jealousy of their success, when we declare our opinion that the medical mind is too much diffused through the numerous channels of intelligence. One or two good writers cannot make a good journal; the learning, talent, and industry of many minds should be concentrated, in order to bring about the highest excellence. When this is done we shall have fewer medical periodicals, but better ones. And what an influence would such a literature exert upon the progress of medicine where progress is most needed, in the minds of practitioners in city and country.

Already our numerous monthlies are written above the capacity of many of their readers. Their mission of education is as yet unfulfilled, and hence we are inclined to believe that the time for a reformation, by reducing their number, has not yet arrived. Perhaps it may never come; but even should the present system of scattered effort continue, progress and improvement are inevitable. After all, it is not the man of learning and cultivation, the man with an overflowing library, polyglot in its languages, all of which are mother tongues to him, who needs the efforts of the teacher. It is the man in the rural districts, doing his best on a small income, without a library other than the text-books of his student-life, without languages other than the homely English learned at the common school, who calls for instruction. To adapt a periodical to these varied purposes, to furnish a means of intercourse for cultivated minds, and at the same time elevate the masses, is the most difficult, but most essential duty of the journalist.

It can be done. The ideas of the *true* philosopher are always intelligible, even to uncultivated minds; and, recollecting that, we take courage.

Such is the channel we would mark out for our river of thought, to which are tributary so many earnest minds. It may flow out to this side or to that, cutting here a new sluiceway for opinion, and there abandoning its old bed of error; but it must tend always toward the common reservoir, the ocean of truth.

We trust that we have said enough to vindicate our reasons for considering the polemics of medicine a fair subject for editorial comment. We would have said less, but the open declarations of some influential writers, no less than the established policy of most of our periodicals, have indicated a rigid confinement to scientific discussions as the only proper career for the editor.

We have wished to prove that our professional organizations into societies, our colleges, our literature, standard and ephemeral, constitute the aggregate profession of medicine, as distinguished from the isolated practitioner; that it must have a policy for good or for evil; and that some well-established general principles should govern that policy. To so frame these principles, and so instil them into the medical mind that they shall live and have power as ruling ideas in our community, strong and vigorous because adapted to our national character, the policy of our free institutions, and the tendencies of the people of our country, is the task at which, earnestly and hopefully, we propose to labor.

THE PHILADELPHIA MEDICAL EXAMINER AND DR. HOLLINGSWORTH.—With the union of the interests of the Philadelphia Medical Examiner and the Louisville Review, Dr. S. L. Hollingsworth, the conductor of the former journal, retires from the editorial tripod, which he has occupied with so much grace and dignity for the past three years. His connection with the Examiner has made his name familiar to nearly every reading medical man in the country; and we are sure that we express the general sentiment of the profession when we say that the medical periodical literature of the United States has suffered no inconsiderable loss by his retirement. His numerous admirers and personal friends have the consolation, however, of knowing that his withdrawal was entirely a matter of choice and convenience, at a period in the history of the Examiner when its high character was more widely appreciated, its circulation as large, its prosperity greater, and its nutrient supply larger than at any other.

The only exchange journal that has reached us since the announcement of the preceding news is the *Boston Medical and Surgical Journal*, whose kindly feeling toward, and high appreciation of Dr. Hollingsworth and his labors are thus handsomely expressed:

"It is with unfeigned regret that we are obliged to record the retirement of Dr. S. L. Hollingsworth from the editorial post he has occupied for three years with such signal ability. The '*Medical Examiner*' has been a very welcome visitor to our table, and we shall miss its goodly company. We learn from the December number that the journal will be combined with the '*Louisville Review*,' the new title to be '*The North American Medico-Chirurgical Review*.' It is to be issued every alternate month, under the editorial management of Drs. S. D. Gross and T. G. Richardson.

"While it is pleasant to 'welcome the coming guest' in this instance, we feel very unwilling to 'speed the parting' one; for, although wherever he is, and however occupied, we wish him all success, yet we had a strong selfish desire to keep him in the ranks of the editorial army. Every good heart and skilful hand that departs thus unexpectedly is a personal loss. Dr. Hollingsworth has won golden opinions as an editor, and deserves the lasting gratitude of the profession."

QUACKERY—SWINDLING.—If despotism has its odious features, liberty has also its weak side, so that they who enjoy its blessings have to submit every now and then to a heavy tax, rather than their charters should be abridged. In no one thing is this so evident as in the toleration of medical quackery by our constituted authorities, whose zealous endeavors to ward off approaching pestilence, and to see that the people have wholesome food of proper weight and measure, are in painful contrast with their supineness and indifference to the continual frauds practised on the community by boastful pretenders to cure all diseases, consumption and cancer not excepted, by their wonderful compounds, which are either inert or poisonous, and are often destructive to those who are silly enough to allow themselves to be duped by such barefaced impostors. There is, in these transactions, for the most part, falsehood from first to last; the title of the article sold is not borne out by its nature or composition; the alleged pathology of the disease to be cured is untrue, and the promise of a certain cure is continually falsified by death. In fact, quackery is nothing less than swindling, and swindling of the worst kind, for the quack not only obtains money under false pretences, but he, at the same time, sells to the victims of his fraud something worse than a damaged article of merchandise. They in good faith receive from his hand a substance or a compound often poisonous, or exceedingly deleterious in some of its constituents, when they think that they are procuring a true panacea, or depurative syrup, or healing balsam, or blood-purifying pills, each one of which preparations shall operate with unerring certainty in restoring them to health, and which the maker and the vendor know will not be productive of any such certain result as is promised.

We are glad to see that in France the government has brought medical quackery within the penal statute under the appropriate head of "swindling"

(*Escroquerie*). In an able article on this subject, by M. Tardieu, in the Annales de Hygiène Publique et de Médecine Légale, for April, 1856, we find notices of fines and imprisonment inflicted on different individuals, because, in the language of the Court of Appeals, when confirming the judgment of an inferior court in one of the cases, the guilty individual "had recourse to fraudulent devices, consisting chiefly in giving out remedies which *he knew* to be inefficacious, and prescriptions incapable of producing the good effects *which he promised;* and that these lying declarations, backed by fraudulent devices, and by means of which he swindled another party out of a portion of his fortune, constitute not only acts of *quackery*, but exhibit also all the characters of the crime of *swindling*." The sentence passed in this case was three months imprisonment, and a fine of three dollars. Another quack was imprisoned for four months. A fellow, calling himself Dr. Rey de Jougler, who carried on operations on a large scale, flooding all France with his millions of circulars, and who was so busy that he was obliged to procure the aid of ten or twelve secretaries, all of whom were represented by his cook "Pierson," was punished by imprisonment for thirteen months, and a fine of twelve hundred dollars. His copartner in iniquity, by the name of Duval, who acted as an apothecary, and made up the medicines, was subjected to a fine of one hundred and twenty dollars. The soi-disant doctor and omni-curer had also to pay three-fifths of the costs, and his associate two-fifths.

A bitter but somewhat amusing paper war has been going on for some months past in the medical journals of Great Britain, concerning the manner in which the late Mr. Liston held the knife in the operation of lithotomy. The controversy was commenced in the Lancet of April last by Mr. Fergusson, who stated in a communication to that journal that the wood-cut in Liston's Surgery, in which the operator is represented as holding the bistoury underhanded while passing it along the groove of the staff, misrepresents the distinguished author, who, Mr. Fergusson asserts, invariably held this instrument overhanded, that is with the forefinger resting upon the back of the blade, as in the ordinary method. In confirmation of this fact, Mr. Fergusson stated that he had assisted Mr. Liston in not less than forty operations, and was perfectly familiar with every particular connected with his mode of operating.

In answer to Mr. Fergusson, Mr. Syme of Edinburgh, contends that Mr. Liston did hold the bistoury as represented, and that Mr. Fergusson never assisted Mr. Liston in a single operation of lithotomy. In a subsequent letter to the Lancet, Mr. Fergusson admitted that he did not *assist* Mr. Liston, but was present at the number of his operations mentioned. As well as we can judge from the various communications pro and con that have appeared, we rather think that Mr. Syme is about to get the better of the Queen's surgeon.

It seems to us, however, at this distance, that the British heroes of the catlin and scalpel are hard put to it, when they resort to such straws with which to beat the public ear, and if we could hope to get their attention in the excitement which they have raised, we would respectfully suggest to these gentlemen that they are making themselves very ridiculous. We should like to know what difference it can make concerning a man's reputation as a lithotomist, whether he holds the knife underhanded or overhanded, or whether in his left hand or his right hand, or both hands, so he succeeds in performing the operation with the greatest ease to himself and safety to his patient.

The number of students now attending medical lectures in this city is uncommonly large; the three schools each exhibiting an increase upon last winter's class. We are also happy to be able to state that the proportion of young men from the Southern States is greater than usual—a fact at which we are not at all astonished, considering the well-known character for religious, political, and medical conservatism, which this State, and more particularly this city, have always maintained. In saying this, we do not intend to cast any imputation whatever upon cities less highly favored; but no one will deny, that a community in which the religion of the Bible as opposed to the so-called religion of nature, medical orthodoxy as opposed to homœopathy, hydropathy, and all other forms of heresy, and constitutional liberty as opposed to local prejudices, are combined and find their strongest advocates, is not only entitled to the greatest success in its public institutions, but to the admiration and love of the whole nation. If such is Philadelphia—and we honestly think so—she may well treat with scorn and indifference the malignant efforts which are made in certain quarters to tarnish her fair fame. We refer now more particularly to a paragraph which is going the rounds of the medical journals and political newspapers; a paragraph which, we are sorry to say, originated in a medical journal, and which, by an erroneous statement in regard to the relative proportion of Northern and Southern medical students assembled here, contains a covert appeal to sectional prejudices, against which, as national journalists, we shall at all times raise our voice.

The Editor of the Buffalo Medical Journal learns, through a private letter received from Boston, that a movement is in progress to rid the Massachusetts State Medical Society of its homœopathic members. We congratulate the orthodox members of that venerable society, upon having at length waked up to a sense of their duty in this matter. It has always seemed to us passing strange, that our Massachusetts brethren, many of whose names the profession of the country delight to honor, should have consented to sit, year after year, cheek by jowl, with some of the most arrant empirics in Christendom; and it has astonished us none the less, that, under these circumstances, the delegates from this society should have heretofore been permitted quietly to take their seats in the American Medical Association, while the delegates from the Ohio State Medical Society were, on one occasion, sent home for the minor offence of having indorsed the patenting of surgical instruments.

We learn from the Boston Med. and Surg. Journal, that the late Dr. Henry Wales, of that city, who died in Paris in June last, has left an extremely valuable collection of books, about fourteen hundred in number, to the library of Harvard College. The collection comprises Sanskrit, German, and Italian literature, of the finest editions and handsomely bound, which were purchased by the testator while residing in Europe. By another clause of his will, Dr. Wales appropriated the sum of forty thousand dollars to be ultimately dedicated to the foundation of a chair of Sanskrit Literature in the University.

Notwithstanding the sneering abuse that has been for some time past heaped upon the profession and medical schools of this country by Ranking's Abstract and other British medical journals for what these periodicals are pleased to consider our total lack of a home medical literature, the London University has recently recommended the work of Professor Wood, of this city, on the Practice of Medicine, as a text-book to its students. The compliment is no less highly deserved by Professor Wood, than it is pleasing to his countrymen.

Justice is said to be blind, but she is certainly economical in some places, the old Bay State, for instance. A Boston Journal, alluding to the charge against a negro barber in Lowell, of attempting to murder the cook of one of the hotels in that city, by poisoning her drink, says, the Government has dropped the investigation of the matter, for the reason that no analysis of the cider, said to be poisoned, could be had short of fifty dollars.

The London Lancet, in a recent notice of the row at the Eclectic Medical Institute of Cincinnati, does not seem to be aware that the college in question is a school of empiricism, in which homœopathy, hydropathy, and all the other fashionable and unfashionable dogmas of the day, are taught, but speaks of it as a scientific body, that has partaken somewhat of the political excitement, "into which the Americans have lashed themselves of late," and winds up with the following serious reflections upon the subject:

"There is a solemn comicality in all this, from its utter opposition to our notions of decorum. It were difficult to imagine a parallel case, unless we could fancy one of our most sedate societies, after a sharp discussion, pouring forth pellmell and 'having it out' in Bowers Street, the president entreating any member just to tread on the tail of his coat, whilst one of the honorary secretaries begged the other to say whether he would like any more. Now the great election is over in America, we opine that a considerable number of the enthusiasts are reasonably ashamed of the antics they have been playing. And we hope that a similar sense of shame has, long ere this, entered the minds of the belligerent professors of Cincinnati."

The foregoing paragraph is in perfect keeping with the general tenor of the Lancet in reference to medical affairs in the United States; and with such informers we do not wonder that the profession of Great Britain generally hold our institutions of learning and the honors they dispense in such low estimation.

A scientific expedition, including several eminent gentlemen of this country, is now on its way to South America, for the purpose of making a thorough investigation of the botanical, geological, and mineralogical peculiarities of the countries about the headwaters of the Amazon, following the course of that river to the Atlantic. It is stated that this country has not been traversed by any scientific investigator since the exploration of Humboldt, fifty years ago. The undertaking is strictly a private enterprise, having originated with some gentlemen of Iowa, but whether from purely scientific motives we are not able to say. Professor Silliman, Jr., whose name has been mentioned by the newspapers in connection with the expedition, does not form one of the exploring party.

We learn from the Peninsular Journal of Medicine, that the editors and proprietors of that periodical have been ordered to appear in the Circuit Court of the United States for the District of Michigan, to answer to a charge for libel, at the suit of Henry Goadby, who is an alien and subject of the Queen of Great Britain and Ireland, and senior editor of the Medical Independent. The alleged libel was contained in a notice of Dr. Goadby, published in the Sept. No. of the Peninsular Journal.

At a late meeting of the Medical Society of London, Mr. Isaac Baker Brown related a case of vesico-vaginal fistula cured in fourteen days by the button-suture. Our friend, Dr. Bozeman, of Montgomery, Ala., the inventor of the operation, an account of which was first given to the profession through the pages of the Louisville Review in May last, will, we imagine, be not a little amused, if not annoyed, to find himself introduced to the profession of Great Britain, by the London Lancet, in which the above case is reported, as Dr. *Bozeneau*. Besides this inexcusable orthographical blunder, the journal in question has copied Dr. Bozeman's plates, and, by omitting to give him the proper credit, ascribes the invention of the instruments therein represented to Mr. Brown. We would beg the editors of the Lancet to explain to us the moral difference between stealing medical books, of which they are in the habit of accusing the publishers of this country, and the theft of which they have been guilty in reference to Dr. Bozeman's operation.

Dr. Spencer Wells, of the Samaritan Hospital, London, is reported in the Medical Times and Gazette as having performed Dr. Bozeman's operation upon a case in which the fistulous orifice was very large, involving the anterior lip of the os uteri. The case had previously been treated frequently and unsuccessfully with the galvanic cautery, and had also been subjected to two operations by other surgeons with similar results. "Up to the eighth day (our last report) all the urine passed by the urethra, and the woman was doing perfectly well."

The friends and admirers of Dr. Mütter, late Professor of Surgery in the Jefferson Medical College, will be gratified to learn thathe has in a great measure recovered from the severe attack of gout with which he suffered soon after reaching Paris, and is spending the winter at Nice.

At the recent sitting of the Army Medical Board, at St. Louis, only two out of fifteen or twenty candidates succeeded in passing the examination. The fortunate young gentlemen were Drs. Lewis Taylor and S. G. Hollenbush, both of Philadelphia, the former a graduate of the University of Pennsylvania, and the latter of the Medical Department of Pennsylvania College.

Professor BLACKMAN recently exhibited to his class at the Medical College of Ohio, a solid ovarian tumor weighing one hundred pounds. The tumor was removed, or rather the patient was removed from the tumor, by Dr. Dunlap, of Ripley, Ohio, and she was reported as doing well on the third day, but we have since learned that the case terminated fatally on the sixth day.

A correspondent of the London Medical Times and Gazette, in reply to a question concerning the origin of the phrase Dog Latin, says, that it may possibly be a corruption of "Doctor's Latin," or the Latin employed in medical prescriptions, since the terms used in these documents are sometimes so abbreviated as to justify the application of the above term to language thus *cur-tailed.*

A man named Thomas C. Carter, recently died in Tennessee, after having attained the weight of 527 pounds.

AMERICAN MEDICAL BIOGRAPHY.—It is known to many of the readers of this journal, that the Senior Editor, more than a year ago, addressed a circular to some of his professional brethren, inviting their aid in the publication of a work of this kind, intended to fill a vacuum, which has long existed in our medical literature. The only work that has ever been issued on this subject, was that of the late Dr. Thatcher, of Plymouth, Massachusetts, well known as the author of a "New Dispensatory," and of a "Modern Practice of Medicine," besides other productions of a minor character. It appeared, in 1828, in two octavo volumes, and was well received by the profession. For a long time this work has been out of print, and there is no probability, as the author himself has gone to that "bourne whence no traveller returns," that another edition will ever be issued. Some years ago, the late Dr. Williams, of Deerfield, Massachusetts, published a volume on American Medical Biography, but it was made up chiefly of selections from the writings of others, and is not at all worthy of a place in our permanent medical literature. What is needed at this time, is an *original* work, embracing an account, brief but graphic, and properly illustrated, of the lives of our most distinguished physicians, surgeons, accoucheurs, and chemists; men who have earned a national reputation, and who, by their conduct and example, have advanced the cause of medicine, science, and humanity. Such a work, we repeat, is much needed, and could not fail to be of vast service to the profession, by showing the world what that profession is, and what it has done. Its circulation would not be confined to medical men, but it would be extensively read by all classes of people, especially clergymen, lawyers, and merchants. In this way might be disseminated a great deal of information, illustrative of the character of the profession, the influence of which would be highly beneficial to the public.

The publication of the work here referred to, has been unavoidably delayed by the removal of the Editor to Philadelphia, and also by the want of punctuality of some of his contributors. He is happy, however, to be able to state, that he has received a sufficient amount of material for the first volume, and that the work will be put to press as soon as material shall be obtained for the second volume. The "Biography" will embrace from thirty to forty memoirs, written by medical gentlemen of acknowledged ability, and will be issued in the highest style of the art, accompanied, wherever this is practicable, by steel engravings. The Editor himself will furnish but one memoir, that, namely, of the late Professor Drake, of Cincinnati.

It may not be unknown to most of our readers, that in Vienna a market for the sale of horseflesh has been in successful operation for some time past; the poorer classes being thus supplied, at a comparatively low price, with meat, which is said to be but little inferior to beef. A similar scheme has been lately started in Paris, and by way of giving currency to the new dish, no less a person than M. St. Hilaire, not long since, invited a number of friends to a dinner at which horseflesh, prepared in a variety of ways, was the only meat provided. A large number of savans sat down to the table, and it is said, partook of horse-soup, horse-steak, and roast horse, with all the gusto that the same number of Polynesians would have manifested over a haunch of roasted preacher. It is true that wine formed no inconsiderable part of the feast, but whether this added to the relish of the meat, or vice versa, we are not informed.

In reference to this "latest French touch," the sprightly and amusing writer of the Medical Gossip of the Dublin Medical Press, furnishes us with the following witty *jeu d'esprit:*

"And by the way, talking of the new art of straining at a gnat, a glass of wine with a bee's wing in it, and swallowing—no, not a camel, but a horse; swallowing a horse, 'Hippophagy,' as it is called; it is stated in well-informed circles, that the French having heard of Irish bulls and the mares' nests of the journals, are now not averse to Irish shamrocks and bullocks! and, accordingly, a certain 'capitaliste Anglais' intends to do away with 'Hippophagy' in Paris, of which M. St. Hilaire has written so much good sense, and Dickens and others so much nonsense. He thinks highly of the *betise* of Dublin agricultural produce, and has studied seriously, and has at length elaborated a plan to procure for Paris every week, in place of dead horses, 'du bêtail gras d'Irlande.' We now copy textually, as the phrase is, from the *Independence Belge*, the best of the newspapers on this side of the Rhine! Like the Emperor of Russia in *Punch*, who only wants paper security to procure money for his railway, our 'capitaliste Anglais' believes the best category of cows or horses in Paris. 'Sont incontestablement hors de comparison avec le bétail Irlandais;' and if he can only get the Dublin medical and other polyglot journals, in Connemara especially, or at Blarney, where, ahem! Sir Robert Kane has been recently corroborating Dr. Cryan's facts as put forth in the *Times*. If our 'capitaliste Anglais' can only procure a hearing in Dublin and Ballinasloe, 'Hippophagy' is forever ended, and the health of Paris secured forever, by a normal consumption of Kerry cows in place of the horses immortalized with all our oldest 'news' in the pages of a weekly contemporary."

NOTICE.—The Editors of this journal wish it to be borne in mind that, excepting personalities, they are not responsible for the sentiments or doctrines enunciated by its various contributors. And it is more especially in reference to the Reviews that they desire to call attention to this fact. Books for review are placed in the hands of such persons in different parts of the country, who are supposed to be able to do them justice, the editors themselves seldom or never engaging in this kind of labor, and no restraint is placed upon a free expression of opinion when this is done in a courteous manner and with a due regard to fact and reason.

Bi-Monthly Bibliographical Record.

AMERICAN.

Chemical and Pharmaceutical Manipulations. By Campbell Morfit, Professor of Chemistry, University of Maryland, and Clarence Morfit, Assistant Melter and Refiner in the United States Assay Office. Second Edition. With five hundred and thirty-seven illustrations. 8vo. pp. 626. Lindsay & Blakiston, Philadelphia, 1856. (Received from the Publishers.)

Report of a Case of Hydrophobia. From Dr. Blatchford's Report to the American Medical Association. By W. L. Atlee, M.D. Pamphlet, pp. 38. Philadelphia, 1856. (Received from the author.)

The Transactions of the American Medical Association. Vol. IX. 8vo. pp. 907. Philadelphia, 1856. (Received from the Publishing Committee.)

The Therapeutical Powers and Properties of Veratrum Viride. By W. C. Norwood, M.D., of Cokesbury, S. C. Second Edition. Pamphlet; pp. 23. J. D. Bedford & Co., New York, 1856. (Received from the Author.)

On the Treatment of Iritis without Mercury. By H. W. Williams, M.D., one of the Surgeons to the Boston Dispensary. Pamphlet; pp. 24. Reprinted from the Boston Medical and Surgical Journal. David Clapp, Boston, 1856. (Received from the Author.)

The Practical Anatomist. By J. M. Allen, M.D., late Professor of Anatomy, Penn. Med. College. 8vo., pp. 631. Blanchard & Lea, Philadelphia, 1856. (Received from the Publishers.)

Obstetrics; the Science and the Art. By Chas. D. Meigs, M.D., Professor of Midwifery and the Diseases of Women and Children, in the Jefferson Medical College, at Philadelphia, &c. &c. Third Edition, revised; with 120 illustrations. 8vo., pp. 758. Blanchard & Lea, Philadelphia, 1856. (Received from the Publishers.)

The History, Diagnosis, and Treatment of the Fevers of the United States. By Elisha Bartlett, M.D., late Professor of Materia Medica and Medical Jurisprudence, in the College of Physicians and Surgeons, New York. Fourth edition; revised by A. Clark, M.D., &c. 8vo., pp. 604. Blanchard & Lea, Philadelphia, 1856. (Received from the Publishers.)

FOREIGN.

Medical Notes and Reflections. By Sir Henry Holland, Bart., F.R.S., &c. &c. First American, from the third London edition. 8vo., pp. 494. Blanchard & Lea, Philadelphia, 1856. (Received from the Publishers.)

Hand-Book of Organic and Inorganic Chemistry. By Wm. Gregory, M.D., Professor of Chemistry, University of Edinburgh. Fourth American, from the third English edition. Edited by J. M. Sanders, M.D., Professor of Chemistry, Eclectic Medical Institute, Cincinnati. 2 vols., 8vo., pp. 896. A. S. Barnes & Co., New York. (Received from the Publishers.)

An Introduction to Practical Chemistry, including Analysis. By John E. Bowman, F.C.S. Second American, from the second London edition. pp. 298. Blanchard & Lea, Philadelphia, 1856. (Received from the Publishers.)

Lectures on the Principles and Methods of Medical Observation and Research, for the Use of advanced Students and Practitioners. By Thomas Laycock, M.D., Professor of the Practice of Medicine, University of Edinburgh. 1856.

The Dissector's Manual of Practical and Surgical Anatomy. By Erasmus Wilson, F.R.S. Third American, from the last London edition. Edited by Wm. Hunt, M.D., Demonstrator of Anatomy, University of Pennsylvania. 8vo., pp. 580. Blanchard & Lea, Philadelphia, 1856. (Received from the Publishers.)

The Physician's Prescription Book; containing List of Terms, Phrases, &c., used in Prescriptions, with Explanatory Notes; also the Grammatical Construction of Prescriptions, &c. &c. By Jonathan Pereira, M.D., F.R.S. Second American, from the twelfth London edition. 12mo., pp. 282. Lindsay & Blakiston, Philadelphia, 1857. (Received from the Publishers.)

Practical Anatomy. A new Arrangement of the London Dissector. By D. H. Agnew, M.D., Lecturer on Anatomy, &c. Pp. 310. Blanchard & Lea, Philadelphia, 1856. (Received from the Publishers.)

Des Aneurysms et de leur Traitement. Par P. Broca, Agrége a la Faculté de Médecine de Paris, Chirurgeon des Hôpitaux, &c. 8vo., pp. 931. Paris, 1856. (Received from the Author.)

THE

NORTH AMERICAN

MEDICO-CHIRURGICAL REVIEW.

MARCH, 1857.

Analytical and Critical Reviews.

ART. I.—*The History, Diagnosis, and Treatment of the Fevers of the United States.* By ELISHA BARTLETT, M.D., late Professor of Materia Medica and Medical Jurisprudence in the College of Physicians and Surgeons of the University of the State of New York, &c. &c. Fourth Edition, Revised by A. CLARK, M.D., Professor of Pathology and Practical Medicine in the College of Physicians and Surgeons of the University of the State of New York. Philadelphia, 1856. Blanchard & Lea. Pp. 610, 8vo.

Diseases of the Circulatory System. Division,—Fevers,—from p. 173 to p. 337, in Part II, of "Elements of Medicine: a Compendious View of Pathology and Therapeutics; or the History and Treatment of Diseases. By SAMUEL HENRY DICKSON, M.D., LL.D., Professor of the Institutes and Practice of Physic in the Medical College of the State of South Carolina." Philadelphia. Blanchard & Lea, 1855. Pp. 752, 8vo.

MANKIND have ever been fond of personifying death with dart raised, and ready at every moment to strike the victims who are continually falling beneath his attacks. But indiscriminate as these may, at first sight, seem to be, we find on observation, that particular classes suffer more than others; and that they are ticketed for their doom by certain very distinctive marks, recognized by the term disease, of which the number is great and the physiognomy correspondingly varied. Of the diseases which announce the doom of death's victims, none are of such sinister augury, and usher so many out of the world as Fevers. None have interposed such serious obstacles to the schemes of ambition, whether directed to conquest, or to commercial aggrandizement and the acquisition of wealth in the great marts of trade. The wisest combinations of genius by the general, and the tried valor of his army, are often set at nought by febrile pestilence. It can be shown, that it is more destructive in the end, than that "infernal fire," which compelled at last the Russian commander to yield Sebastopol to the allied French and English forces. Much as these latter suffered in the trenches, and in successive sorties, and great as was their loss in the bloody fields of Alma, Inkermann, and Balaklava, they encountered more protracted suffering and greater losses from fevers. So it has been from the earliest times to the present; and so, without a change in nature and unlooked-for revelations in medical science, will it continue to be in after times. The chosen sites for the emporiums of commerce are, for the most part, at the mouths of rivers, or at distances easily reached from the ocean, where the land is low and marshy, and, as such, subjects the inhabitants to one kind of fever,—periodical, which, with increasing population, and crowding, and scant space for lodging, is replaced often by another kind, or the continued. Colonial settlement and the clearing of the forest for the wants of agriculture, are also followed by fevers, which are, in fact, the sorest obstruction in the path of the adventurous emigrant, even when, as is too often the case, his progress is not entirely arrested by death from their attacks. Mournful distinction has been gained for some countries and districts by the excessive mortality from fever, which had assailed armies during campaigns in them, or expeditions engaged in their capture. Thus, for example, we read of the Hungarian fever, the Walcheren fever, and the Batavian fever, and, on our own continent, the Mexican fever; all of which have committed from three to five fold the havoc of lives, and even some of them a still greater proportion, beyond what were lost in battle or in siege. Wherever our fellow-creatures are engaged in war, we find them in large numbers, assailed to the death by these great destroyers, which do not cease their ravages when men are engaged in the pursuits of gainful commerce and manufactures, or in the more tranquil and less risking ones of agriculture.

On a theme like this, in which every one may be said to have a lively personal interest, depending either on actual or prospective experience, there can be no lack of description nor backwardness in descanting on its portentous features. There is, unfortunately, another reason for the subject of fever continually inciting us to inquiries and to speculations likewise, viz., in the circumstances of the mystery in which its causes are shrouded, and of the difficulties which still embarrass us in all our attempts to arrest its progress, either in its endemial or individual manifestations. Every now and then, we are tantalized by the exclamation of some enthusiast, who cries out "*Eureka*," I have found it, meaning sometimes a knowledge of the remote cause, sometimes of its treatment; but sober experience comes along, and the sounds of boastful promises are hushed; proofs fail, the evidence is insufficient, and each inquirer is left to continue his observations, and to pursue his quest after the concealed treasure, in company, perhaps, with others who are bent on discovering the quadrature of the circle, perpetual motion, or the elixir of life. But, short of the extremes of what may be called the first causes and the specific treatment of fever, there is a wide field for legitimate investigation, in which enough of the certain has been found to reward the labor of search, while there yet remains a sufficient share of the doubtful and the unknown to stimulate us continually to renewed exertions to reach farther discoveries. In this respect, the search into the characteristics of fever, and the means of staying its ravages, is like the search after a Northwest Passage, or the successive attempts at exploration in the interior of Africa; both in the repeated failures to solve the problem, and in the self-sacrificing and devoting spirit by which they have been inspired, who gave themselves up to the task.

Much has been said of the advantages of mathematical studies in disciplining the mind, by imparting to it habits of patient observation and continuous attention, with exacting methods of induction from the previously ascertained facts or phenomena, whether these be represented by quantities, by properties, or by both. To the student of medicine better mental exercise can hardly be found, than in the study of fever, which demands, together with a rigid scrutiny of carefully-observed phenomena or symptoms, a specification of each, and the order of sequence in which they appear, constituting a numerical analysis. This must be followed by a description of the union of symptoms in groups, and of their alternations, which cannot, any more than the precise and uniform order of the subsidence or disappearance of each of these phenomena which, collectively, make up the diagnosis of fever, be given in numbers. Each symptom represents some physical change; but the mode of succession and alternation of symptoms, and the rapidity with which these are effected, are not to be measured by numbers; nor are they reducible to any known physical laws: they are as incapable of methodical reduction to a fixed value, or representation by set formulæ, as would be the numbers and forms in a geometrical problem when thrown out of their proper sequence and connection, by a sudden and apparently capricious transposition. Limits are soon put to the most indefatigable observations of the phenomena of fever, and when the mind has exercised for the purpose its perceptive faculties, it calls into play those of reasoning and deduction: but finding a certain hiatus which cannot be supplied to make out an unbroken order of sequence, and to allow of a positive induction, it is prone to pass from physics into metaphysics—and without always acknowledging to itself the transition from the inductive to the ratiocinative. One great difficulty in the whole matter consists in a too great readiness to give the perceptive faculties rest before they have discharged their duties to the uttermost, by a patient observation of all that can possibly be observed; another is found in their prematurely invoking, while they are engaged in their duty, the assistance of the reasoning faculties, so as to anticipate conclusions from evidence yet imperfect. A third difficulty lies in receiving as explanations in chief, concurrent phenomena furnished by mathematics and chemistry, and admitting them as causes, when they are merely correlative effects of a general and remote cause not yet ascertained. Instead of trusting to other sciences for a solution of the problem, all the materials of which are not embraced by them, the student of fevers, as indeed the student of medicine entire, ought to strengthen himself by sound logic, so that after having collected all the data cognizable by the senses and perceptive faculties, he may be able by its aid to detect what relations must subsist between data and whatever can be concluded from them, between proof and everything which it proves. Logic cannot give us proofs, but it teaches us what makes them proofs, and how we are to judge of them. In the study of fevers we must enforce a logic, which includes the operation of naming, and also definition and classification.

Considerations of this nature come up in our minds, when looking through the works whose titles are at the head of the present article. They are the productions of men of mark, writers and teachers of medicine, and, at the same time (we wish we could always add as a necessary sequence), scholars of matured judgment and chastened taste; good representatives, also, of the medical literature and style of composition of two great divisions of our country,—the North and the South. Dr. Bartlett's volume treats *ex professo* of the fevers of the United States. Dr. Dickson's embraces a description of fevers more comprehensive, but in less detail, in his "Elements of Medicine." Of the able manner in which the former has treated his subject, stronger proof can hardly be adduced than the fact of the present being the fourth edition. Equal time being allowed, it requires no gift of prophecy to predict a like success for the latter.

It was not allowed to Dr. Bartlett to superintend this edition of his work. Death, which so often, sternly and with seeming caprice, interposes to prevent a continuation of labors for the good of humanity, arrested the author in his onward progress. In the language of his editor and friend, Dr. A. Clark, who has acted on the present occasion as his literary executor with equal discernment and affection: "The distinguished author of this volume had performed his last scientific labor when his third edition was prepared for the press. Sixteen months ago [from November, 1856], he closed his brilliant professional career, after years of growing bodily weakness and pain; his mind not dimmed by his physical infirmities, but bright and comprehensive, glowing with the memories of the past and the visions of the future. He died too soon for the profession he adorned." For ourselves, we would not curtail, by a single word, the lines of eulogy which follow in the preface; and we would join his surviving friends and admirers in planting "forget-me-not" on his grave, and help, on a fitting occasion, to weave a chaplet of laurel to wreathe the brows of a commemorative bust. But, just now, our notice will not be of the dead author, but of the living work; and what we have to say will be meant for the benefit of the living of those for whom it was written, and whom he hoped to instruct through its pages.

The first edition of Dr. Bartlett's book on fevers was restricted to the history of typhoid and typhus fever. In the second edition he introduced the history of periodical and yellow fever, "thus rendering," to use his own words, "the work what it professes to be, a Systematic and Methodical Treatise on the Fevers of the United States." The proportion of pages taken up with the original subjects in the present volume is nearly three-fifths of the whole number. Some ambiguity is often unavoidable in the common titles of works. In the instance before us it might be asked, whether we are to understand it to mean the history of fevers peculiar to the United States, or of fevers of general and common occurrence in this country, which have been so long connected with its climate, geography, and the circumstances in which its people are placed, as to make them truly national, if not indigenous. In receiving this as the meaning which the author intended to convey by his title, we are arrested by a difficulty and apparent contradiction, when he assures us, at p. 334, "that *typhus fever*, without lesion of the intestines, is a form of disease rarely met with in this country, except among emigrants recently arrived from Europe; and that no clear and well-defined difference is recognized between this and the form of continued fever generally prevalent here." Notwithstanding this, the fever called typhus, separated, in the opinion of the author, from typhoid fever, mainly by the absence of the lesion just mentioned, is made the theme of the second part, amounting to twelve chapters, of the work before us, although, as in no small degree a recent importation, it is scarcely entitled to a place in the history of American fevers; certainly not more than the newly-arrived emigrants, who bring it with them, would be to notice in the ethno-political history of the people of the United States. But, be this as it may, the author could not well have omitted a tolerably full notice of typhus fever, mixed up as the subject is with his ably-written augmentative history of typhoid fever.

He tells us in his Preface, "I thought that the wants of medical science here, at least, demanded a history and comparison of the two chief forms of continued fever, as they are now ascertained to exist, fuller and more discriminating than had yet been written; and these wants I have endeavored to supply." The two chief forms of continued fever adverted to are typhus and typhoid. And again, he declares that one of his "leading purposes has been to bring out more clearly and strongly than has hitherto been done, our means of diagnosis between the different species or forms of fever, and to ascertain and establish their nosological relations." In his history, he describes but four individual forms of fever, "to wit, typhoid fever, typhus fever, periodical fever, in its three forms of intermittent, bilious remittent, and congestive, and yellow fever." The simple reason for this is, that he does "not know anything of any other distinct fever amongst us." In the execution of the several divisions of his history corresponding with those of fevers just made, considerable inequalities are observable. Those on typhoid and typhus, especially the former, both in the "part" formally allotted to it, and in that in which the latter is the chief theme, are treated with the most fulness and augmentative ability. The third "part," on periodical fever, is wanting in detail and completeness. We are not required to speculate on the causes of those inequalities, for the author, in assigning the reason for his beginning his history of the fevers of the United States with that of typhoid, tells us with becoming frankness, that his "own knowledge of the disease derived from personal observation is much more extensive than of the other forms of fever."

Dr. Bartlett gives one of the articles on preliminary matters, which constitute his first chapter, to the names of the disease. He adopts "the term *typhoid fever* as the name of this disease, simply because it is not particularly objectionable, and because it seems to be coming into general use." Here, at the very outset, we are at issue with the author, and we have no hesitation in considering the expletive typhoid, when applied to the fever in question, as particularly objectionable in any writer who, in the general argument, takes the side of the essential difference between typhoid and typhus fevers. He ought to do his best, if not to expunge, at least to withdraw it. If held to as a designating and distinctive title, it must damage beyond retrievement the side taken by the author. It cannot, as such, retain its place so long as typhus is admitted with all the circumstances of symptomatology with which it is universally associated, nor so long as logic, which regulates the selection of names, and the existing analogies of the language are allowed their proper weight. We make the disclaimer thus early, because of his early annunciation of what we believe to be a term in contradiction with the creed of the author; but we shall not enforce our opinion until we have reached a more advanced stage of the general argument, and brought out the features of the two forms of fever on the same canvass. We shall then be able, we think, readily to justify the position which we now take in the premises. On the other hand, if we admit, with so many good observers and acute reasoners, that typhoid is only a modification, a less violent form of typhus fever, then nothing can be more apposite than the use of the common term.

The author, in the "article" devoted to the history of typhoid fever, has, it seems to us, restricted himself within too brief a period, when he dates its beginning from the first description of its pathological lesions by Prost in 1804. We would be among the last to undervalue the importance of the part of the anatomical history of any one fever, or of fevers in general; but its absence by no means implies that a history, and a very useful one too, has not been written. Unless this be conceded, the task of retrospective study will be very light, and we shall have no occasion to inquire into the views, or be influenced by the precepts, of Hippocrates and Sydenham, and many others of our instructors, if not guides, in much of what relates to fevers. Were it to be alleged that the author did not deem it expedient to engage in retrospection beyond the time when the fever received its present name, and had its distinctive characters pointed out, we would reply, that he must then abbreviate still more his historic period, and waive the accounts of the anatomical lesions described by Prost, as well as by Petit and Serres, and by Rœderer and Wagler, and by Bretonneau; as these lesions were noted in a fever which did not receive from these writers the name of typhoid. By some observers it was called *mucous*, by some *entero-mesenteric fever*, by others *dothinenterite*, and by a fourth party *follicular enteritis*. It is, therefore, by constructive, not direct, testimony that he adduces the observations of the above writers as of those "who studied particularly the intestinal lesions of the disease." Conceding that the author was right in his construction of the evidence resting on intestinal lesions being applicable to the cause which he advocates, and that it enters appropriately into his history, we cannot see on what ground he should reject the histories of an earlier date, in which descriptions of a fever under another name, are so clearly written as to admit of no dispute respecting its identity with that now called typhoid. We may specify, for example, Huxham's chapter on the *Slow Nervous Fever*, "which," to use the language of the historian himself, "hath been very exactly taken from too many, who have fallen victims to this insidious and dangerous enemy." In another part of his work (p. 271), Dr. Bartlett tells us that, by some of the older

British physicians, amongst whom may be mentioned especially the incomparable Huxham, the difference between the two forms of fever (typhoid and typhus) was distinctly noticed. So, also, we read, at p. 96, that Hillary, in his account of the diseases of Barbadoes, describes a slow nervous fever, which was very evidently typhoid.* We are, therefore, free to express a wish that the author had given a wider retrospective range to his history of typhoid fever—in justice to the literature, and for a fuller comprehension of the subject.

A reason for the curtailment now adverted to may probably be found in the next article, on "Methods of Description," in which the author presents the two that may be adopted in describing a disease. The one, the most ancient, which may be called the physiognomical, consists in a portraiture or "a general enumeration of the more striking and obvious phenomena of the disease," and which enables us to see at a glance its form, outlines, and features. "The other, which has been followed by many writers within the last fifteen years, especially amongst the French, consists, not merely in this general enumeration of the phenomena, their combinations and progress, but in a thorough and careful analysis of these phenomena; in a special and particular study of each individual element which goes to make up the disease, and in a strict estimate of the relative value and importance of each and all of these several elements." Although the author admits, in the one of these methods, the absence of that wholeness and unity of impression which are made by the other, he declares his preference for the last-mentioned, or the analytical process, as the only one capable of enabling him to point out "the characteristic features of each of the four great forms of idiopathic fever; to establish, as far as possible, a clear and positive diagnosis; to ascertain the resemblances and the differences between them." Here we have a distinct declaration of the manner in which the author intends to write his history of the fevers of the United States. Impliedly, he rejects the propriety or advantage of other fashions of historical writing, both by this his declaration of his own plan, and by his omitting from the list of historians of the fever which he calls typhoid, those who have not pursued the analytical or numerical method of description—as, for instance, Huxham and Hillary. That the physiognomical method of description has its value is, however, practically acknowledged by Dr. Bartlett, in the readiness with which he and others are able to see at once, in the histories of the authors just named, the same features which distinguish the typhoid fever of the present day—even although no mention was made of intestinal lesions.

Enumeration, by furnishing details, helps us to description, and chronicles furnish the primary materials for history; but to enumerate is not to describe, nor does the writing of chronicles constitute history. We may enumerate all the features of the human face; giving the length of the nose and the chin, the prominence and breadth of the cheek-bones, the size of the mouth and of the eyes, the color of the eyes and of the eyebrows and eyelashes, and the extent of surface of the forehead, and whether it is erect or retreating, and yet still fail to convey a picture of the recognizable expression of the countenance. We may chronicle a series of events in the order in which they transpired, and give the names of the chief actors, and still only represent the skeleton of history, which requires to be clothed with flesh, and animated with the nerves and senses, corresponding with a description of the countries and the localities which were the scenes of action, of the character of the people, their social and business habits and tastes, the disposition and intelligence of their rulers, and their motives for taking part in the events narrated. The more we reduce anything to its elements, the less value, in reference to the whole, has each separate element, and the more complete often is the change or loss of the original qualities by which it was distinguished from other things. To say, for example, that a certain substance has a given percentage of carbon, imparts a very faint, if any idea of the class of bodies to which this substance belongs; nor can we, after its complete analysis, which is at the same time destructive, predicate of the reunion of the elements, a substance identical with the first, or of a change in the proportion of the elements, the kind of body, or the properties which it will manifest, by their combination. Analysis, in these instances, gives us a knowledge of constituent elements and of quantity, but yields no explanation of certain sensible properties, as of sweetness, or bitterness, or of the different degrees of these properties. How much more difficult must the task be to analyze or resolve into elements which should represent a fixed value, not of a thing or substance, but of a state or condition of things, such as vital phenomena and disease, which are continually changing, and of which at best we can only make a picture, but without being able to measure entire by a mathematical standard, or determine the recurrence and alternation of each separate phenomenon, or symptom, by numeration. So far as this last can be carried out it is useful by giving us points of comparison of the symptoms and lesions in two different fevers or other diseases; but we must never forget that it is a comparison of certain elements of two diseases, but not of the diseases themselves, which are composed and complex, and that the field of observation and of deduction is different in the two cases. We may note the appearance, after death, of a straw-colored liver in yellow fever, of a bronze-colored liver in remittent fever, and of intestinal lesions in typhoid fever; but such appearances do not, as far as we can learn, contribute to the diagnostic or characteristic features of these fevers respectively, which belong to a state of life. Nor have these lesions any significance even in empirical therapeutics, or such as might be enlisted to obviate the more prominent and distressing symptoms.

---

* In the text, by a typographical mistake, Minorca is put for Barbadoes.

If we assume that the symptomatology of fever results from internal changes and lesions, still no one symptom, however strong and marked, is distinctly diagnostic; but its value is relative, and depends on its connection with other symptoms. In a particular stage of typhoid fever, for example, a certain condition of the tongue, dry, with a brownish coat, and crusted or in fissures, so as to bleed when efforts are made to clear the mouth, is observed; yet we have seen precisely this kind of tongue exhibited every morning for years in a person who, though not in good health, was able to discharge the daily duties of his vocation. So of a frequent pulse and *subsultus.* Each separate symptom may have been noted until the list becomes quite large, but still their enumeration fails to convey an idea of the actual appearance of the patient under disease, or, in other words, of the physiognomy of the disease, which is the collection, combination, union, and sometimes fusion of the symptoms, forming an entire picture, not reducible to or explicable by lines or numbers. The difference in the physiognomical expression of two individuals is admitted to depend on certain differences in the features of the face; but these differences cannot be measured by rule and compass, nor are they susceptible of numeration. A painter makes each part of the face, mouth, nose, eyes, &c., a subject of preparatory study and drawing, and he may have acquired the art of painting a mouth, or a nose, or an eye, with great accuracy and beauty; but years of practice in this way will not enable the artist to paint these several features in their relative position and junction with each other, nor even to appreciate the full expression which each is capable of conveying, until he portrays the whole face. Nor must he stop here, but take the portraits of a number of individuals who, severally, manifest a different physiognomy. He soon discovers that the expression of the countenance and the play of features, which tell of the state of the feelings, are not dependent on the size, prominence, or fulness of the several organs or constituent parts of the face,—the nose, lips, cheeks, and eyes—but rather on the contraction under nervous influence of minute muscles, represented by slight touches of his brush, which connect the angles of the mouth and the nostrils with the cheek, but without actually belonging to either, and others which draw together the eyebrows and contract the skin of the forehead. These are vital movements which, together with the beaming eye, are the soul of expression: they are compound results, not reducible to number or measure, nor to be described by an anatomical analysis of the bones, and muscles, and nerves concerned in these movements. The physiognomy of disease, the altered expression of the face under the pain and derangements caused by fever or other acute diseases is as incapable of analysis by a simple enumeration of the color of the skin, and the suffusion and injection of each part separately, as would be the strong passionate emotion of an individual by a description of the size and appearance of each feature separately. It is the *calida junctura,* the entire and active union and blending of the features, which both the physiognomical painter and the diagnosticating physician must study and acquire a familiarity with. It is a knowledge of this kind gained by an experienced nurse, which often enables her to tell the pathognomonic symptoms, and prognosticate the termination of a disease, without her being able to convey by words, or by any numerical or other analysis, the reasons for her judgment.

In thus commenting on Dr. Bartlett's choice of a method of describing disease, we do not mean to impugn its value in so far as it directs us to the study of each individual element; but we are decidedly of opinion that, even when carried out with all possible minuteness, the task of description is only half done. The other half consists in representing the combination of these several elements, the reconstruction of the entire physiognomy by the reunion of its several parts—the synthesis as well as the analysis. More correctly speaking, the actual appearances—the external features, and posture, and the symptoms of internal disturbances,—should all be presented in their totality, and in the connection and in the order in which they actually occur, before the work of separation, the taking to pieces, the analysis is attempted. The author was able, at once, to recognize in the writings of Huxham and Hillary, his typhoid fever, although described by them under another name. We do not believe that it will be equally easy for a succeeding writer to establish with the same readiness the kindred relations of typhoid to another fever, the precise nature of which it is desired to determine at the time. We are sure that it would be a very difficult thing, if it could be done at all, for a student or other person, who had never seen typhoid fever, to recognize its features in the analytical description of it given in the volume before us. The same remark applies to the method pursued in describing, we may rather say in enumerating, the several symptoms of the other fevers,—typhus, periodical, and yellow.

Thus far, we have dealt with the principles, the fundamental positions, laid down by the author for his government in writing his history. These, we have ventured to intimate, are not adequately comprehensive; but all must, we think, acknowledge, that, within the limits which he has prescribed to himself, he has carried out the divisions of his subject with due method, and given the details with desirable precision, and in a style at once clear and expressive. We are not called upon to follow him in his divisions and details; and shall only make use of them so far as may be necessary to elucidate the great question of the actual relations to each other of typhoid and typhus fevers, on which he argues well and plausibly, if not convincingly, with the design of proving that they are essentially and fundamentally different and distinct diseases. If he has left the question still unsettled, his want of success must be attributed to the difficulties with which it is beset, rather than to any want of industry, ingenuity, or honesty of purpose on his part.

The actual relations, whether of close affinity bordering on identity, or of difference marked by broad contrasts, between typhoid fever and typhus fever, can only be established by a carefully-considered diagnosis of each of these two diseases. This was the chief task which the author imposed on himself, when he wrote his first work, entitled the "History of Typhoid and of Typhus Fever." In the present expanded volume he begins with that of the first-mentioned disease, the symptoms, anatomical lesions, causes, varieties and forms, duration, march, and complications of which, together with its mortality and prognosis, diagnosis, theory, treatment, definition, and bibliography, he details in twelve chapters, which constitute the first part of the entire work. The same course is pursued in reference to typhus fever, in the like number of chapters, which make up Part II.

In the chapter on the diagnosis of typhus fever, we read: "In their mode of access, typhoid and typhus fevers in many instances very nearly resemble each other." The author adds, in the next paragraph, "I am not aware that there is anything in the chills or in the character of the pulse to distinguish the two diseases." Again, "There is a pretty close correspondence in the number, the severity, and the constancy of the nervous symptoms in the two diseases." A difference in this respect is pointed out by our being told, "The nervous symptoms in typhoid fever almost always creep on more stealthily and gradually than they do in typhus. This is especially true of the dulness and stupor." We are entitled to lay the more stress on the fact of the general sameness in the character of the nervous symptoms, when we reflect that the name of typhus is derived from the powerful stunning or stupefying state which accompanies this continued fever. We must remember, also, that the symptoms which more prominently attract our attention, and impart the chief physiognomy to the two diseases, are those which indicate derangements of the nervous system, either of a primary or secondary nature. It is but right, however, that we should apprise those of our readers, who may not be in possession of the work itself, that the sentences just quoted are followed by others, in which the force of the admissions made in them are qualified by observations of a different tenor, and the indicating of some differences, to which allusion will be made hereafter. The author believes that it is hardly possible to confound typhoid fever with any other affection. He says: "Setting aside then, as I do, for the present, the true typhus fever, there is no disease more readily and positively recognized than a case of well-marked typhoid fever, of extreme or even of average severity, when observed from its commencement, and followed through its entire course." The most serious disturbances of the nervous system may be absent; and it may happen that the abdominal symptoms, the diarrhœa and tympanitic distension may be wanting, and still, the author assures us, that the diagnosis may remain in no way difficult or doubtful. In contradiction with an opinion thus positively expressed, we read, in the very next paragraph the following distinct admission: "I do not mean to say by this, that typhoid fever can always be distinguished with certainty from other diseases, even when it is watched during its whole course, and by the best observers." Louis himself, has been deceived. Lombard was equally so, both in Glasgow and Dublin, when he mistook cases of typhus for typhoid fever, and predicted with confidence that, if the patients died, the intestinal lesions usually deemed characteristic of the last-mentioned disease, would certainly be found. The examinations were made; but none of the anticipated lesions were observable. Dr. Bartlett further admits that the diagnosis of typhoid fever in children, is sometimes attended with a considerable difficulty, and he points out meningitis as the disease more than any other with which it is more likely to be confounded. Typhoid fever is also, he tells us, and the observation has been made by some of the older writers, sometimes more or less mixed up with and influenced by the pathological element of periodicity; as during the prevalence of remittent and intermittent fevers, and in the most dangerous of these, or the pernicious of European continental writers, the congestive of our own. All these circumstances must detract not a little from the ready and positive recognition of typhoid fever, so confidently enunciated just before by the author. We shall show presently, that the difficulties are still greater than those just mentioned.

First, let us advert to the symptoms received by the author, and the school of pathology to which he belongs, as those enabling us to make up the diagnosis of typhoid fever. We pass over the prodromes and the state of the nervous system, as they offer, according to his own acknowledgment, nothing materially different from what is met with in these particulars in typhus fever; although in the historical part of the diagnosis of this latter (p. 295), he attempts to indicate some points of distinction, in the mode of access and in the state of the mind, between the two diseases. The same remark applies to the state of the circulation as measured by the pulse, and the state of the heart; nor can we attach any importance to the endeavor to establish contrasts between the appearances of the tongue and incrustations on the teeth in the two fevers, for two we will call them to prevent explanatory repetitions. The abdominal organs are believed by the author to furnish less equivocal symptoms, and, accordingly, diarrhœa with thin, watery, and dark or yellowish stools, sometimes consisting of blood, "tympanitic distension of the abdomen, dulness on percussion over the spleen, and gurgling upon pressure upon the right iliac region," are enumerated with considerable emphasis, especially when compared with their alleged absence in typhus fever. Almost always, as we are told, the rose-colored "lenticular eruption will be discovered if it is timely and carefully sought for," p. 132. Farther back, under the head of "Symptoms," we read: "There is good reason to think that this eruption is almost always an invariable accompaniment of typhoid fever, in number various, and sprinkled pretty abundantly over the chest and abdomen." It is confessed, at the same time, that Louis, in thirty-six fatal cases in which the eruption was sought for, found it only in twenty-six. Epistaxis "is quite common in the course of typhoid fever."

The preceding are the symptoms on which the author, in common with all those who advocate the opinion of the distinct nature of the disease, chiefly rests his diagnosis of typhoid fever. We say chiefly, in reference to symptomatology proper, and the elements of diagnosis, which its study supplies during the existence of the disease and the life of the person laboring under it. We cannot conceive of the diagnosis of a disease being procurable from other sources, and in another period; either in that before its coming on, or in that after its termination in death. An examination of the dead body may reveal to us certain organic lesions which accompanied the disease, and which, in some instances, we are safe in believing, gave rise to certain characteristic or pathognomonic symptoms; but it is a perversion of terms to speak of these lesions, structural changes seen in the dead body, as symptoms; and if not symptoms, they cannot form a part of diagnosis. We may regard them either as causes or as effects of morbid actions, or morbid phenomena. If the former, they belong to etiology; if the latter, to morbid, called often pathological, anatomy; but in neither case do they come within the limits of diagnosis. This may be said to be an abstract theoretical restriction of diagnosis; but it is in fact the practical one, for our opinion of the distinctive features, or of the individuality of a disease, its diagnosis, must be made up from what is presented to our senses at an early stage, as a guide in our subsequent course of treatment, and without reference to the contingency of what may be discovered after death. We are often and truly told, that success in treating a disease turns mainly on a correct diagnosis; but if this last be incomplete until we have had an opportunity of examining the anatomical lesions after death, then must imperfection unavoidably attach to our treatment of those who recover under our care;

and while they are praising us for our skill in rescuing them from death, we are in danger of looking at them with an air of dissatisfaction for having deprived us of the means of making our diagnosis in full.

That the author of the work now under notice takes the latitudinarian view of diagnosis to which we object, is obvious from the following passage, in which he brings forward what he deems his strongest point in support of the separate and distinct nature of typhoid fever: "I have said nothing thus far of the lesion of the elliptical plates as an element in the diagnosis of the fatal cases. It has been already remarked that this lesion is characteristic of this disease, that it is invariably found in the fatal cases of typhoid fever, and that it is not found in fatal cases of any other acute disease. If this is absolutely true, without exception and without qualification, then the presence or the absence of the lesion ought to be final and decisive in regard to the diagnosis." He, however, impliedly corrects himself in the undue stretch of signification which he gives to diagnosis, when, after going over what he believes to be the evidence in this matter, he winds up with the following declaration: "*That the connection between the diagnostic symptomatology of typhoid fever, and the entero-mesenteric lesion is, I will not say absolute and invariable, but as nearly so as the connection between the diagnostic symptoms and the characteristic lesions of any given disease whatever in the nosology in which the connection is not established by positive physical signs,*"* p. 140. We will not stop to criticise the pleonasm of "diagnostic symptomatology," or of "diagnostic symptoms," in the satisfaction we feel at finding diagnosis for the nonce reduced to its proper limits. As respects the soundness of the deduction thus formally uttered by the author, we could wish that he had postponed it until after he had introduced the leading features of the history of what he calls "a supposed epidemic typhus fever, which prevailed at Rheims, between the first of October, 1839, and April, 1840, by M. H. Landouzy,"† p. 286–9. Most of the symptoms of this local fever, for it began in and was almost exclusively confined to the prison, were those of typhus, notwithstanding which, in the six autopsies of those who had died from the disease, "the intestinal lesions characteristic of typhoid fever were present."

Before we advert to the prominent symptoms of typhus, which are supposed to distinguish it from typhoid fever, and to allow of the latter standing out with more evident individuality, we must mention, in addition to the intestinal lesions, the changes in the mesenteric glands and the spleen, which complete the series of evidence on one side, in this argument deduced from organic alterations in the abdomen. "The glands of the mesentery are always found more or less changed, according to their position, and according to the period at which the disease has terminated." "The diseased glands correspond, very nearly, to the altered elliptical plates; those nearest the ileo-cæcal valve being more changed in their appearance," p. 84. The spleen is almost always more or less altered in appearance. The most constant change consists in the augmentation of its volume. In many cases, it is three or four times as large as it is in its natural state. It is also very generally diminished in consistence, p. 85. The lesions consisting in an alternation of the elliptical plates of the small intestine (Peyer's glands) and of the glands of the mesentery corresponding to these altered plates, make up "one of the constituent elements" of the disease, p. 87. It is the marked character and frequency, not to say constancy, of these lesions, which have led the German medical writers and pathologists to designate the fever called typhoid by the French, abdominal typhus, *typhus abdominalis.*

---

* The passage is thus italicized in the work itself.

† The history of this fever is given by its author in the *Archives Générales de Médecine*, for January and February, 1842.

The symptoms of typhus fever are described by Dr. Bartlett under similar heads to those of typhoid fever. We need not follow him in his divisions and details; for, with all his painstaking on the occasion, he fails, we think, to make out his case, viz., to show that the symptoms are of such a clearly diagnostic character as to establish an essential difference between the two diseases. In his tabular summary, already adverted to, he tells us, that spontaneous diarrhœa is rare in typhus fever, and that the discharges from the bowels are not liquid; there is no gurgling on pressure over the region of the cæcum. Meteoric distension and griping pains are very rare. This is meant to contrast with the reverse state of things in typhoid fever. But in contradiction to this we learn from Huxham and Pringle, that there is rather a tendency to diarrhœa in typhus fever. The first of these writers says, that a gentle diarrhœa is often very beneficial; he gives a case, however, of violent purging, supervening on the tenth day of the disease, in which also "the belly swelled exceedingly." He mentions, as a very bad symptom, when the belly continues hard, swollen, and tender after profuse stools. Diarrhœa and tympanites were occurrences of great frequency in the histories of typhus, prison, and camp fever, collected by M. Gaultier de Claubry, in his prize memoir* on "The Analogies and Differences between Typhus and Typhoid Fever," afterwards republished with additions in a separate volume. Of all the symptoms which are supposed to distinguish the two fevers from each other, most stress would seem to be laid on the cutaneous eruptions. Those in typhoid fever being bright, scanty, and rose-colored; whereas those in typhus fever consist, in grave cases, of more abundant petechiæ, which do not disappear on pressure, as the first-mentioned so readily do. In other cases of typhus fever there is no eruption. This last does not constitute even a negative point of difference, for the same remark has been made of the absence of the alleged specific eruption in typhoid fever. Louis, as previously stated, met with it in twenty-six out of thirty-six cases, or in a little more than two-thirds. Dr. Flint, quoted by the editor, Dr. Clark, found the eruption only in fifty-nine of his seventy-three cases; nearly the same proportion of two-thirds of the whole number.

---

* In Mémoires de l'Académie Royale de Médecine, Tome Septième, 1838.

We propose now to examine somewhat particularly the validity of the diagnosis of the two forms of fever, which is intended to establish a positive nosological difference between them, derived from the presence of diarrhœa and tympanites in the one, and their alleged absence in the other, and from the different appearance and other characters of the eruptions in the two diseases. The argument in favor of the separate and distinct nature of the two must fail entirely if it can be shown that, in some of the worst forms of typhus fever, in situations and among subjects calculated to impart to it an eminently malignant character, as measured by suddenness of attack, violence of symptoms, brevity of course and fatal termination, symptoms supposed to be peculiarly diagnostic of typhoid fever have nevertheless prevailed. That these phenomena do occur in a co-ordinate relation, in many cases, is proved by the testimony of most of the best historians of typhus fever. Huxham, in his account of the disease, describes a maculated eruption of different hues, black, livid, green, or chestnut, and includes among them small lenticular maculæ (*lentiginibus similes*); also white miliary pustules (sudamina?) and a red itching exanthem. Hildenbrand, in his "Treatise on the Nature, Cause, and Treatment of Contagious Typhus" (Dr. Gross's translation), is careful to distinguish the exanthem proper from petechiæ: the first is a mere red-spotted exanthematous eruption, closely resembling purpura rubra, which is very early succeeded by sudamina and by small red pustular elevations, not unlike the purple pustules that occur in malignant fevers. Do not these eruptions resemble closely the ones described in the work before us, which are alleged to be peculiar to typhoid fever? But there is yet the other form of eruption noticed by Hildenbrand in typhus, and which is commonly supposed to be among the most distinguishing symptoms of this disease. We refer to the petechiæ, which the German author says may occur with or without the red purple efflorescence, but which do not belong to the essential phenomena of typhus, and are developed only in consequence of certain requisite conditions. He truly adds, that they are not always found in this fever. Coupling this observation with another in a subsequent paragraph, that the exanthematous eruptions, which are peculiar to typhus, occur either under the form of spots or of glandulous or tuberculous specks, and again (p. 61), that the exanthematous eruption in typhus presents as many varieties and modifications as there are species, we can hardly fail to see that eruptions which are by many believed to be diagnostic of typhoid and typhus fever, appear together, or are blended in the same case. The exanthem proper, according to Hildenbrand's observation, comes out about the fourth, sometimes not till the seventh, day; the petechiæ often not till the eighth day, or even later; the first accompany the catarrhal or inflammatory stage; the second show themselves in the next or nervous stage, and often only after the disappearance of the other. *Epistaxis* is noted by Hildenbrand as generally occurring on the fourth day of the disease—a fact not justifying the remark in the "tabular summary" that epistaxis is more common in typhoid than in typhus fever. We shall find in the sequel that this assertion is farther contradicted by the testimony of other experienced observers.

Gaultier de Claubry, taking Pringle's description of typhus fever, under the names of hospital, jail, and camp fever, as used by the English author, for his standard of comparison, introduces successive accounts of the disease, recognizable by the same symptoms, which showed itself in different countries of Europe in the early part of the present century, as an attendant, or a concomitant of camps, cities in a state of siege, &c. In many, it may be said in most of these accounts, there are, however, noticeable features which by the Louis school, as represented by Dr. Bartlett, are alleged to be characteristic of typhoid fever, but which we cannot help regarding as varieties of typhus, resembling so closely as these do the universally-received picture of this fever. The family traits are unmistakable; the difference consisting only in a somewhat deeper coloring, and in parts more shading in the typhus than the typhoid portrait. We proceed to notice some of the abstracts introduced by M. de Gaultier de Claubry in his Memoir. Roux, in a description of what he terms the contagious adynamic fever which prevailed in the summer quarter of 1809, at the Josephine Hospital of Vienna, when that city was occupied by the French army, mentions, among the fully-detailed symptoms of typhus, repeated epistaxis, tympanites, diarrhœa, and the appearance of spots resembling miliary eruption in some, and reddish and purplish in other cases. Hufeland, in a violent epidemic nervous fever, which he speaks of as similar to that designated by the terms pestilential fever, putrid fever, or typhus, and which caused great havoc in Prussia in 1806 and 1807, mentions diarrhœa as precursory to the more characteristic symptoms of the disease. When these were developed, tympanites and tenderness of the abdomen, with increase of diarrhœa, manifested themselves; and also rose-colored spots, and sometimes petechiæ. MM. Brasser and Rampont describe a destructive epidemic, which, in 1805 and 1806, extended from Austerlitz to Augsburg, and which was ushered in by either a violent frontal or a sinciputal headache: the symptoms were sometimes of a catarrhal, less seldom of a gastric, and, on occasions, in young and strongly sanguineous subjects, of an inflammatory character. These were succeeded by the obvious symptoms of typhus, blended with others which would be considered diagnostic of what, in the language of the day, is called typhoid fever; such as a rose-colored eruption on the sixth day, distinct from the petechiæ which appeared later, followed by tympanites, and, in cases, by inflammation of the parotid glands. This last is mentioned by Pringle among the occurrences in typhus fever. Bourges, in his account of the diseases which he observed in the City of Bamberg, in the Grand Duchy of Warsaw, met with the hospital, the malignant putrid, the nervous, or the adynamico-ataxic fever of some authors. He specifies, among other symptoms of typhus, an acrid heat of the skin, and an aggravated condition of things when diarrhœa sets in early. M. Ducastaing (Thesis, 1815) gives a full description of a typhus fever which destroyed the greater part of those whom it attacked. The chief subjects were young conscript soldiers, who proving refractory, were, after long and fatiguing marches from home, confined in prisons in Gaieta, in the Kingdom of Naples. With the worst symptoms of typhus were associated liquid intestinal discharges, and but seldom constipation, also tenderness and enlargement of the abdomen. Petechiæ and gangrenous eschars were met with. Organic lesions were detected after death in the brain, lungs, liver, spleen, small intestines, and lymphatic glands. We shall advert to these again. Reveillé-Parise (Thesis, 1815) is the historian of the epidemic typhus fever, which committed such frightful ravages among the unfortunate inhabitants of Saragossa, towards the conclusion of the memorable siege by the French in 1809; and also in the ambulances of the troops of the latter. In addition to the symptoms indicating the most malignant form of this disease, diarrhœa occurred in nearly all the cases. Rose-colored exanthems and petechiæ were more commonly seen in the city than in the army ambulances. Parotitis was sometimes met with, and often large gangrenous eschars were formed on the parts of the body subjected to pressure. If a more rapid course and fatal termination of typhus be, as they are in the volume of Dr. Bartlett, placed in contrast with the longer duration of typhoid fever, then must the fever of Saragossa rank as pre-eminently belonging to the former category; for in some cases, called by Reveillé-Parise *typhus siderans,* death took place on the second, or, at the latest, on the third day. In the accounts of the typhus fever in the English army on the Island of Walcheren, in 1809, by M. Tresat, and among the French prisoners on board the hulks, or rather floating tombs, at Plymouth, in 1810, by M. Bouchat, we do not find the typhoid elements. A very interesting history of what its author calls the *contagious typhus*, which destroyed two-thirds of the French garrison at Dantzic, in 1813, is given by M. Tort. The disease began among the troops in barracks; and afterwards, when they were distributed among the private houses, it spread among the inhabitants. It did not always pursue a uniform march; but the picture, as drawn by M. Tort, exhibits the worst symptoms of typhus, and together with enlargement and tenderness of the abdomen, particularly of the right side. Death generally took place on the ninth day. Nasal hemorrhages showed themselves on the fourth and fifth day: there was a purple exanthem elevated above the skin, and frequently petechiæ. Sometimes parotitis occurred, and in such cases death always followed. In the memorable epidemic fever at Torgau, which carried off one-half of the garrison in 1813, we find three forms described by M. Gilles de Tourrette. The first more nearly resembles the typhoid fever of the present time, in the rose-colored spots on the skin of the abdomen and lower part of the chest on the fifth day, and nasal hemorrhage, and at a later period tympanites: the involuntary alvine discharges of a dark fetid character, come more properly, however, under the typhus head. The second form was often not ushered in by any precursory symptoms, but made its attack with great violence, and terminated fatally in three and even two days, and sometimes with the frightful suddenness of only six and twelve hours' sickness. In this form so terrifically typhus, we find tympanites enumerated, but instead of rose-colored spots, petechiæ. M. Laurent relates, in his thesis (1815), a history of the terrible epidemic typhus which committed such havoc in the French garrison and the inhabitants of Metz in 1813–14. He describes three forms: one designated by him as *typhus siderans*, from the suddenness of the attack, as if the patient were struck by lightning, and the short duration of the fever, which ended fatally often in twenty-four hours, and at the farthest on the third day. Among the symptoms were tympanites, involuntary diarrhœal discharges, and "adynamic petechiæ." The second form began with the appearances of an inflammatory fever, but soon lapsed into an evident typhus, with copious diarrhœa and epistaxis, and an eruption of red spots, and also of petechiæ. The third took the lingering course, and the features of slow nervous fever, with tender abdomen, and involuntary copious alvine discharges. M. Gaultier copies from different histories of typhus fever in France, which he tells us in advance, exhibits always and throughout an identical symptomatology. We meet in these accounts with the so-called typhoid symptoms, tympanites, diarrhœa, and rose-colored spots, allied to the most aggravated forms of typhus, and in which petechiæ are seen at the same time.

M. Gaultier, after having given these abstracts of the histories of typhus fever, as it occurred in camps, hospitals, and prisons, its universally recognized nursery and home, furnishes details of the symptoms in the successive stages of typhoid fever, drawn from the French writers, and particularly Chomel; and he arrives at the conclusion, in reference to their symptomatology, that the two diseases exhibit not only a close analogy, but the most perfect resemblance, the one to the other. This writer then compares the intensity of the two; not, however, by selecting cases of *typhus siderans*, which destroys its victims in twenty-four, or even in twelve hours, on the one side, and mild and solitary cases of typhoid fever, on the other,—although even such contrasts as these would not furnish ground for admitting essential differences, any more than are seen after comparing a case of discrete with one of confluent small-pox. Both fevers vary greatly in their degrees of intensity and resulting mortality; so that we may see mild typhus and destructive typhoid. Huxham, quoted by Dr. Bartlett in terms of approval for the description which he gives of slow nervous [typhoid] fever, as a distinct affection from typhus proper, or "the putrid, malignant, pestilential, petechial fever," expresses, it seems to us, the real nature of the difference, as being only in degree, and not in kind, by his comparing the contagion, from which the former "may sometimes arise," "to the virus of a mad dog, which works but slowly;" and the contagion of the latter to "the poison of a viper, which immediately affects and destroys the texture of the blood-globules, and brings on a very speedy corruption." Although Huxham believes the two fevers to have a very different origin, symptoms, and method of cure, he admits that "the one may be, and very often is blended with the other." This blending has been fully exhibited in the descriptions collected by the French writer, so repeatedly referred to. It is not, we must remember, merely the occurrence of epi-phenomena, or an intercurrent disease in an existing epidemic, but a true blending of symptoms derived from each, which, of course, implies a considerable sameness of character, and general harmony of details in the two to allow of such a result.

The conclusions drawn by M. Gaultier de Claubry, in favor of the sameness of typhus and typhoid fevers, are not directly met by the author of the work before us. The latter endeavors to weaken their force by altering the terms of the original thesis, and thus placing himself and the French writer as advocates of different questions. Thus we read: "In regard to the memoir of Gaultier de Claubry, it is important to state that his object is to demonstrate the identity of the typhoid fever of Paris and the jail, army, and camp fevers of the continent of Europe. *He formally puts aside the British typhus.*"* We are at a loss to find the grounds on which this last assertion is made. At the very outset, M. Gaultier tells the Academy of Medicine, in reference to the meaning which should be attached to the hospital typhus, "typhus nosocomial," that, throughout his memoir, he supposes the Academy to have had in view solely the *typhus of camps*, *of ships*, and *of prisons*, and, in order to prevent any misconception, he will take "as a type and point for comparison, the epidemic in the English army observed by Pringle, from 1742 to 1745; and some of those which, during the great wars of the Empire, from 1805 to 1814, caused such ravages in Germany and Spain, and on board the prison ships at Plymouth, in several provinces of France, and finally, in the hospital of Salpétrière in Paris." In this programme our readers must see that there is neither a formal nor an implied putting aside of the British typhus by the French writer.

---

* This passage is placed in italics by the author.

The American author, in continuation of the paragraph just now quoted by us, says: "He [Gaultier de Claubry] insists, as though it were one of the strongest points of his argument, upon the constant presence, in the continental jail and camp fever, of the lesions of Peyer's glands. The question has since been very fully discussed by the French Royal Academy. I only wish it to be clearly understood, that the question is quite different from the one now before us;" p. 235. It seems to us, that, if this is not the question, it is at any rate a legitimate part of the identical question, which it is the great aim of the author, through the larger division of his volume, to solve in a certain sense, viz.: by showing the essential or fundamental dissimilarity of typhus and typhoid fevers. The French writer, on the contrary, insists on the identity of the two diseases; and in proof of his position adduces a large body of evidence, chiefly derived from the accounts of typhus fever as it had prevailed, and was observed in different parts of continental Europe. Our author believes that "they are separated clearly and broadly from each other, by the presence in one and the absence from the other of very strongly-marked and constant anatomical lesions, and of groups of symptoms equally striking, constant, and characteristic;" p. 291. The French writer attempts to show that the constancy of lesions in one fever is paralleled by equal constancy in the other:—he fully succeeds in showing that the groups of symptoms in typhus include some of those which are insisted on as unequivocally diagnostic of typhoid fever. To this the American author replies, by asserting, as the result of his conviction after reading the memoir, "that many of the epidemics prevailing in the armies and prisons throughout various portions of the continent, from 1804 to 1814, corresponded in all respects to *typhoid fever*, while in other instances the disease was the Irish *typhus*." It is to be regretted that Dr. Bartlett did not specify the epidemics belonging to the divisions, thus arbitrarily made, and show that the lesions which he deems to be characteristic of typhoid fever were absent in those which he has put under the other head. Having failed to do this, his summary way of disposing of the question by virtually taxing the French writer with ignorance of the ground he occupies in the argument, and of confounding in his description two diseases, the features of which he had made it his business to study with the greatest care, cannot meet with favor.

Dr. Bartlett's caution in weighing the value of evidence sometimes forsakes him in a natural desire to establish his favorite position; and both in his claiming and rejecting witnesses he, on these occasions, betrays, without his being conscious of it, somewhat of the eagerness of a partisan. In addition to the present instance just furnished, we may refer, in illustration of our meaning, to the strained construction which he puts on the essay on *Typhus* Fever, by Dr. Nathan Smith, of New Haven, in declaring it to be a most valuable work on typhoid fever; and, as such, he draws freely from its pages in his own account of this latter disease. That Dr. Smith did not adopt, without due deliberation and a knowledge of its nosological value, the name of typhus to designate the fever on which he wrote, will hardly be contested. If, therefore, we find him, as editor of the treatise on Febrile Diseases, by Dr. A. P. Wilson Philip—Hartford, 1816, Vols. 2—declaring that "the author's description of the typhus fever corresponds so exactly with the appearance of the disease known by that name in this country, as to leave no doubt on the mind of its being essentially the same; and he has described the symptoms so minutely that nothing need be added under this head," the conclusion is irresistible, that the continued fever of New England, with which Dr. Smith was so familiar, was "*essentially* the same" as the English typhus. But Dr. Bartlett says that Dr. Smith's typhus is the same disease as the typhoid fever; and Dr. Smith says, that his (the New England) typhus is the same as the English typhus. Now, as two things which resemble, in every particular, a third thing, must resemble each other, so, as the English typhus and the typhoid fever both resemble the continued fever of New England, known to and described by Dr. Smith, they must resemble one another and constitute an identical disease.—q. e. d. Even were it admitted that Dr. Smith was mistaken, when he felt so confident of the picture of typhus fever drawn by the English author (Philip) being a correct representation of the fever with which he was so familiar in New England, and which he called typhus, and Dr. Bartlett typhoid, can any other inference be drawn than the great difficulty of making a diagnosis which should establish an essential difference between the two? So, also, if Gaultier de Claubry, with the standard of English typhus before him, as delineated by Pringle, and a full knowledge of the alleged characteristics of typhoid fever, confounds, in his description of the camp and hospital fever of the continent, typhus and typhoid fevers, must there not be as strong a resemblance between the two diseases, as there is between two varieties of any one fever—common intermittent and congestive, mild and malignant scarlatina, discrete and confluent small-pox, for example? If such men as Smith and Gaultier, both of them close students and careful observers, are thus liable to be mistaken, is not Dr. Bartlett too sanguine in assuring us that the diagnosis of typhoid fever is easily and thoroughly made out?

Additional evidence of the difficulty of diagnosis in the two fevers, on account of their running into each other is offered in a late work by Professor Magnus Huss, of Stockholm (Sweden), on the "Statistics and Treatment of Typhus and Typhoid Fever." It contains the result of twelve years' experience (1840–1852), gained at the Seraphim Hospital, in Stockholm. The conclusion which Dr. Huss draws from observations made by himself and his colleague, Professor Malmsten, on 3186 typhus patients,—for under this head he includes both those who had suffered from typhus proper (*typhus petechialis*), and from typhoid fever (*typhus abdominalis*),—is, that these diseases, "such as they appear in the north, belong to one and the same pathological process, but that which we may call the typhus process presents several different varieties. These varieties or forms arise from the circumstance that certain groups of symptoms, sometimes from one, sometimes from another of the organs or systems, are more prominent in one individual than in another. It must certainly be allowed, that the difference may sometimes seem great enough to warrant the admission of distinct diseases instead of only varieties of the same; but, considering the intermediary form between the two, and how they often change from one to the other, and how they unite, the result must be their classification under the same pathological process. It may be very easy to distinguish the two remotest links in the chain of which the typhus process may be said to be composed, and then to decide if any particular case is one of typhus or typhoid fever, but even the most penetrating discernment may be baffled in attempting to distinguish one of the intermediary forms, which lie between the two extremes, and partake a little of each, and it may perhaps be impossible to make a correct diagnosis." —p. 5–6. This is the language of philosophic doubt uttered after extensive and prolonged observation. It is not confined to the Swedish physician. Our own Huxham,—for we cannot allow the Atlantic to cut us off from our hereditary claims on the riches of English medical lore, and the glories of English medical worthies,—expressed himself more than a century ago in nearly similar terms. When describing these two fevers (the slow nervous and the putrid malignant), he says, in words already quoted, that he is "very sensible the one may be, and very often is, blended with the other."

Dr. Huss states the grounds on which his conclusion is founded. It rests on his own observations and those of other Swedish physicians, and, although these do not in all respects agree with the observations made in other parts of Europe, they are coincident, in the main, with the statements of the majority of German writers. The facts which epidemics furnish are mentioned in the first place. We learn that in two of these, one in 1841–2, and the other in 1845–6, giving to the wards of the Seraphim Hospital, in the first period, 503, and in the second 414 fever patients, the cases were neither typhus nor typhoid fever exclusively. But, on the contrary, there were some of both, "so that in the beginning and to the height of the epidemic the cases were, for the most part, typhus, and at the end the typhoid fever almost entirely prevailed. This statement is founded not merely on the symptoms each individual case presented, but also on the results of the post-mortem examinations. With the exception of four, all who died were examined; there were 55 fatal cases in the former epidemic, 33 in the latter. Of the former 55, 36 presented those alterations of the intestinal tube and mesenteric glands which are peculiar to typhoid fever, and 19 no such alterations. Of the latter 33, only 29 were examined; of these, in 19 the glands were changed in different degrees; the remaining 10 showed no change." In a note to this passage, the author adverts to another epidemic in the Seraphim Hospital in 1852, which had every character of the exclusively abdominal form; all the *post-mortem* examinations, with the exception of one only, exhibiting the usual changes in the intestinal glands. Another epidemic, of a more limited extent, was studied by Huss, with the following results. "At the barracks of the *gens d'armes*, out of 250 men 64 were taken ill in the course of six weeks. Although the men lived under exactly the same circumstances, were exposed to the same etiological agents, were all between 20 and 40 years of age, the disease assumed the distinct forms of typhus in one part of the cases, of typhoid in another, and in a third took an intermediate form. In the private house of a cabinet maker I saw 17 cases within a fortnight, of which 10 were typhus and 7 typhoid fever, although here also the dwelling and other circumstances, with the exception of age and sex, were the same for all." Two cases are mentioned of a man and his wife contracting fever by their living in the house and using the clothes of his brother, who it was stated had died of typhus. "They were soon taken ill and brought to the hospital, where they both died. The husband had violent delirium and a profuse petechial eruption, the *post-mortem* examination showing no change of the intestinal glands; the wife had milder cerebral symptoms, and a very scarce crop of eruption; but on examination swollen mesenteric glands and swollen and ulcerated Peyer plagues were found in abundance." In the epidemic typhus cases, noticed by the author, "a number of intermediate cases were of very frequent occurrence, making it utterly impossible to determine the true nature of the case, whether petechial or abdominal, as there were symptoms of both. Often such symptoms were observed as seemed to announce an affection of the intestinal glands, but the *post-mortem* examination did not discover any; in other cases these alterations were found, and the symptoms had indicated the petechial form."

Reference is made by Huss to the striking differences in the violence of the symptoms and the number and extent of organic lesions in the varieties of scarlet fever. Some fifty patients of both sexes, between 51 and 25 years of age, laboring under this disease, were entered at the Seraphim Hospital. "In these cases there was, with the exception of the cutaneous eruption, a greater variety in the symptoms presented than is ever found in those of the typhus forms." After describing two cases of scarlet fever in which the author saw appearances so frequently found in petechial typhus; and in another case, which had begun with the intestinal symptoms, the glands of Peyer were affected in the like manner as in typhus abdominalis. The difference between these forms of scarlet fever appears to him to be quite as great as that between typhus petechialis and typhus abdominalis; and, he continues, when, notwithstanding this, the different forms of scarlet fever are brought together as one disease, it seems to him but right to adopt an analogous junction in reference to the typhus fevers. The chief objection to establishing this analogy is, in his opinion, the uniform and decided character of the eruption in every form of scarlet fever, in opposition to the diverse cutaneous eruptions admitted to characterize the different forms of typhus. The first part of this observation, or that relating to scarlet fever, is laid down too broadly. We have seen, in the present epidemic of this fever, and our experience is doubtless not solitary, cases of peculiar malignancy, and which terminated fatally, without there having been any eruption at all.

Huss examines some of the symptoms and anatomico-pathological lesions, which are especially considered to mark the distinction between typhus petechialis, and typhus abdominalis or typhoid fever. He passes in review the eruptions on the skin, the cerebral and nervous symptoms, and the state of the organs of circulation, without his being able to find the distinctive differences sought for. More promise of such a result is offered in the state of the organs of digestion, and especially of the intestinal canal; but even here, while admitting the very frequent occurrence of the symptoms in typhus abdominalis, which French authors look upon as diagnostic, the author assures us that not only may a single one be wanting, but all of them at the same time. He next inquires into the results reached by dissection, and takes occasion to rebuke mildly those persons who, notwithstanding all the symptoms are distinctly marked, refuse to see a case which offers them as one of typhoid fever, unless the ordinary lesions be found; or, on the other hand, who will insist on a case being one of typhoid fever, if ulceration of the glands of Peyer is present, notwithstanding all the symptoms had been characteristic of petechial typhus. He thinks it must be allowed that typhoid fever can exist without affected intestinal glands, unless we suppose those physicians who have communicated these statements incapable of making a correct diagnosis. The other anatomical lesions afford, he thinks, no marks of distinction. The symptoms in the two diseases exhibit a difference in degree of intensity, but scarcely anything more. The attempt to draw a line of distinction between the two forms, typhus and typhoid, furnished by etiology, has not been successful. Both are liable to be propagated by contagion, but typhus in a greater degree, although the relative contagiousness of the two diseases is much influenced by the varied nature of different epidemics. The more important question, whether the contagion which produces typhus differs materially from that causing typhoid fever, is replied to in the negative by Huss, who believes it is difficult to deny that the same contagion can produce the two forms. But he admits that it is difficult, if not altogether impossible, to find out the individual circumstances on which the disease seems to depend. He believes constitution and temperament to have a decided causative influence. The limits in regard to the age of the patient, within which it was at first taught that typhoid fever was restricted, have since been considerably extended; but if what has been said on this subject be ever so true, it does not furnish, in the opinion of the author, a sufficient reason for placing typhus and typhoid as two different morbid processes. In some other points of etiology, especially in their sporadic origin, "the two maladies are perfectly congruous; unhealthy, overcrowded, ill-ventilated dwellings, poverty and its privations, care and sorrow, and a certain process of acclimation for such persons as come from the country to inhabit large cities, &c. &c., being the remote causes of both." The Swedish author sums up his creed in the following declaration, which we should be willing to utter as our own, viz.: "That typhus and typhoid fever (typhus petechialis et typhus abdominalis), such as they appear in the climate of the North, neither can nor ought to be considered as two distinct maladies, but only as two varieties of the same morbid process." This, though a decided, is a less extreme view of the question than that taken by Gaultier de Claubry, who in insisting on absolute identity claims too much, and especially on the point of intestinal lesions, which although met with in some of the epidemics described by him, have not been proved to be present in all, nor do we believe that such constancy of appearance exists in the continental typhus: we know that it does not in the British Islands.

The frequent use of the additive *abdominalis*, by the Swedish writer, who follows the German nosographists, to designate that variety of typhus which, in France, England, and the United States, is generally termed typhoid, must have been noticed by our readers in previous extracts from Dr. Huss's volume. Conformably with the pathological views which he, and others who think like him, entertain on the subject, either of these names might be considered appropriate; the first as indicating a variety of typhus in which some of the leading symptoms and the most important organic lesions are abdominal; the second, or typhoid, as conveying the idea of a modification of or resemblance to typhus. In this sense we speak of typhoid pneumonia, inflammatory fever resulting from local injury running into a typhoid state, erysipelas of a typhoid character, just as varioloid is used to represent an eruptive fever resembling or having symptoms similar to variola or small-pox; or cinchonoid, a quality or qualities belonging to cinchona, or asteroid as a minor star, or luminous body resembling a star. We see in all these cases abstract names, qualities or attributes of an antecedent concrete name. Typhus is the concrete, typhoid the abstract name. To say of typhoid that it can stand for or be the expletive of a thing or state of things entirely dissimilar and different from typhus, is to predicate of a quality or attribute entire unlikeness to the substance or thing of which it is a quality or an attribute. It is an abuse of words, a perversion of all the analogies of our language, to call a fever which is essentially different from typhus by the term typhoid: and so long as the designation is attempted by those who hold to this pathology, so long will they find themselves continually embarrassed in establishing their position, not only by the difficulty of the thing itself, but by the confusion created by their wrong terminology. If they wish to show that the fever in question has a fixed organic connection, they cannot say origin, let them call it with the Germans *typhus abdominalis;* or if they believe that its somewhat longer and slower progress are characteristic, and that it affects strongly the nervous system, let them call it after Huxham, the *slow nervous fever*. If we could name a fever after an organ or organs which are most generally the seat of anatomical lesions, the most appropriate designation would be *entero-mesenteric* for the fever in question, as proposed by Petit and Serres. The term enteric is adopted by Dr. Dickson, who follows in this respect Dr. Wood. But in the present state of the pathology of fevers we are not prepared to name or classify them from their supposed seat in any one viscus. No visceral inflammation, separated from other pathological causes or influences, can light up a fever which shall represent fully, still less be identical with, any of those now regarded as idiopathic.

Dr. Dickson, in adverting to the subject of the alleged difference between typhus and typhoid fever, believes that "the cases arrange themselves in groups, resembling each other generally in the prominent symptoms, and requiring similar management." He subdivides typhus fever into four varieties, viz.: 1. The simple typhus of Armstrong, mild typhus, the nervous fever of common phraseology; 2. Abdominal typhus, typhoid or typhoidal fever, typhoid affection, dothinenteritis, ileo-colitis, enteric fever; 3. Cerebral typhus, in which coma or stupor is the prominent feature, the tendency to which indeed gave name to the whole class; 4. Putrid fever, malignant typhus, jail, ship, and hospital fever. The first two come fairly under the head of typhus mitior, which will include the lighter cases also of the third; the fourth is the typhus gravior of Cullen, and the older English writers, and will comprise some of the severer instances of the third.

The Carolina Professor adverts to the doctrine held by Rokitansky, of the generation of a typhus poison in the blood—typhosis, which must be got rid of or thrown off; and its elimination is through the intestines, whence the peculiar deposit and consequent pustulation. The analysis of the typhus matter makes it very nearly identical with tuberculosis and scrofulosis.

Little space is left for us to speak of the treatment of the two forms of fever, typhoid and typhus, contained in Dr. Bartlett's volume. The author has not introduced anything new or suggestive, nor has he made any attempt to transfer the treatment of these diseases from the empirical ground on which they now rest to one of principles. Perhaps a needless exhibition of our therapeutic weakness is made by him, in giving under the several heads, Dr. Jackson's method, Dr. Nathan Smith's method, Chomel's method, &c. &c., to which the editor has added Huss's treatment of typhoid fever. The most noticeable feature in this last is the use of compresses wet with cold water, applied to the whole abdomen. Huss believes that this application, preceded by sinapisms or fomentations with turpentine, and continued daily till the approach of convalescence, has great influence in diminishing the abdominal lesions and symptoms. We have used the abdominal compress and the wet sheet in two different cases of typhus fever, with obviously good effects. The lives of the patients seemed to be saved by the remedy. Dr. Bartlett enumerates the remedies in typhus fever in the same way as he does the symptoms, and with a similar disadvantage, of isolation, when we wish to know the effects of remedies given in different stages of the disease, and of their alternate or combined use. A good outline of treatment, both of typhoid and typhus fevers, in this last spirit, is given by Dr. Dickson.

We cannot follow the author in his history of periodical fever, the several parts of which are well written, and present a clearly-drawn but not a full picture of the varieties usually recognized. He has restricted himself for the most part to French and American writers, to a neglect of some excellent

English and Italian ones. Among the latter he dismisses the great names of Torti, Baglivi, Lancisi, and Rammazzini, with the compliment of calling them classic authorities upon the subject, and the additional remark: "But their descriptions are generally inaccessible here, and they are of course but little known; it should be said further that they are quite deficient in pathological details." The narrow and incorrect meaning given by so many of the modern writers to the term pathological, restricting it to designate morbid anatomy, instead of all that relates to the morbid condition of the body during disease, makes the author do injustice to these Italian celebrities. The fact mentioned in the above extract, of their being little known and generally inaccessible, seems to us to be a reason for their peculiar merits being brought out by a historian of periodical fever. In another page, he speaks of them not being at hand. If they had been perused by the author, he would not have introduced the four names without any qualifying remark, as if they had all written with equal fulness and instruction on the subject of periodical fever. Baglivi, snatched away in the prime of life, from the field of medical science, of which he promised to be an original and successful, as he was a brilliant cultivator, speaks of the semitertian or hemitritæa and the kindred tritaeophya, as the common autumnal fevers of Rome, and as both violent in their progress and often fatal in their termination. The organ which evinces the greatest derangement and distress is the stomach. Sometimes the fever assumes an algid, sometimes a comatose, or, as he calls it, apoplectic form. In sections *De Febribus in Genere*, and *De Febribus Malignis et Mesentericis*, —*Opera Omnia.* Venetiis, 1754. The work was first published in Rome, 1696. Rammazzini (*Opera Omnia—Medica et Physiologica.—Genevæ*, 1717), when detailing the epidemic constitution of Mantua and the adjoining country for 1690, speaks of the great prevalence of intermittent fevers during that year, and the severity and extreme danger from night paroxysms of double tertian. In an epistolary dissertation addressed to his nephew, on the abuse of Peruvian bark, he describes fatal cases of algid and comatose fever of the tertian type, but hesitates to administer this medicine with the requisite freedom; although prejudiced against the bark, he admits that it might be of use in these malignant intermittents, if a proper diagnosis be early attained. Lancisi (*Opera Omnia. Genevæ*, 1718), in his famous treatise on the noxious effluvia from marshes (*De Noxiis Paludum Effluviis*), describes epidemic intermittent, and its pernicious varieties, and counsels the free use of bark in doses of two scruples to a drachm, frequently repeated, for their cure. But of all the early Italian medical writers, Torti is most entitled to our regard for his full descriptions of periodical fever, and particularly of the most dangerous and fatal variety, designated by him and the continental writers as pernicious, and known to us as congestive; and also for his recommendation of large doses of bark in these cases. He gave half an ounce at a time, without particular regard to the stage of the fever, or its complication with other diseases. He comments on, and criticises with much force and point, the letter of Rammazzini just referred to. Torti wrote in 1712, and if his work, *Therapeutice Specialis, ad Febres Periodicas Perniciosas,* had been put into an English dress at the time, there would have been an incalculable saving of life in all the English possessions in tropical regions, and in our own country. A little more book-knowledge, which is supposed by non-reading routinists to be opposed to practical tact, would have been, in this case at least, a most important help in every-day practice in those extensive regions in which periodical fever in its various forms is endemic. Torti wrote four letters in Italian to Muratori, in the fourth of which he asserts his claim to be the first to show in Italy, the true nature of pernicious periodical fevers, as he was also the first beyond question to prove the certain means of curing them by the administration of large doses of Peruvian bark. He does justice to Morton, whose writings on the subject were somewhat anterior to his own. Torti draws freely in his work from Mercatus, who described well the malignant intermittent, but who was ignorant of the remedy. Morton, who is quite overlooked by our author, described some of the worst varieties of pernicious fevers, and inculcated the free use of bark for their cure (*Opera Medica. Tomus Secundus,* Cap. IX, *De Proteiforme Intermittente Febris Genio*). The free use of bark in remittent fever, even in the paroxysm, was practised with success by Dr. John Clark (*Diseases of Long Voyages*) nearly a century ago. The good service of showing the relations of European medical literature to the wants of American practice, so far as regards a better knowledge of the pathology and treatment of congestive fever was, we believe, first performed by Dr. Bell, in his written lectures added to those of Dr. Stokes. The want of recognition of the fact, that the pernicious intermittent and remittent fevers of Southern Europe were the same as our congestive fevers, deprived many of the advantages which they might have derived from the perusal and study of works which had been translated and were accessible; such as those of Senac and Alibert. A more careful study of the English writers, from Morton to Clark, would of itself have saved much guessing and groping before the right path was finally found.

The prominent points of treatment of periodical fever in its different forms of intermittent, remittent, and congestive, are set forth by Dr. Bartlett; but we miss a minute appreciation of the effects of certain remedies, as modified or rendered more efficient by others, given antecedently, or in combination with them. Thus, for example, we have repeatedly cured, or at least prevented for a long period, the recurrence of the paroxysm of intermittent fever by a single venesection, followed by quinine, which last, and other analogous remedies, had of themselves failed entirely to arrest the disease. A similar remark will apply to the timely use of calomel or blue pill, preceding that of quinine, or sometimes in alternation with it. Dr. Dickson may be consulted with much benefit on the whole subject of the pathology and treatment of the varieties of periodical fever. It is one of which he has a full knowledge in all its bearings, the result of actual observation and long experience. Every practitioner who has seen and is at all familiar with the course of bilious remittent fever must be greatly disappointed at the extremely meagre and unsatisfactory account of its treatment, contained in the three pages devoted to the subject by Dr. Bartlett. The inexperienced will find scarcely anything to guide them in the resort to suitable means for meeting the successive and alternating symptoms and changes which are met with in the sick-room on such occasions.

In turning from the outlines in this volume, which partakes more of the closet than the clinical ward, to the directions given by Dr. Dickson, the difference is very perceptible. The latter writer lays down the indications for the use of the lancet, with a clearness and precision which we miss in the former. On the use of mercury, with a view to its constitutional action, of the cold bath by immersion, affusion, and ablution, and of the vapor bath, antimonials, blisters, and diffusible stimulants, in the treatment of this fever, Dr. Bartlett is entirely silent. On each of these points Dr. Dickson touches with brevity, but with distinctness, while designating the particular condition of the system to which the remedy is deemed most appropriate. The treatment during convalescence and that for the sequelæ of the fever are also important topics, which are noticed by the Southern teacher, although overlooked by the Northern one. The former makes brief but pertinent notice of the "Country Fever," as it is called in the cities of the South. It is "a modification of bilious or malarious fever, originating in *transient* exposure to the intensely concentrated malaria of the low country, as by sleeping a night or two upon a rice-plantation during the summer and autumnal months." The prognosis is unfavorable. "The treatment must be prompt and decided. Our best dependence, from the very commencement, is upon the combination of the mercurial with sulphate of quinine in efficient doses. Ten grains of each may be given at first, and half the quantity at intervals of two hours until the bowels are moved, when the calomel may be omitted, persisting with the quinine until quininism has been induced, which must be kept up for 72 hours at least, for fear of a return of the attack, the proclivity to such relapse being very great."

Part Fourth of Dr. Bartlett's volume is taken up with the history of Yellow Fever. With the drawback already pointed out, which meets us in his accounts of the other fevers, viz., the want of a full picture of the disease and of the changes which it undergoes in its successive stages, this is the best prepared and most instructive portion of his literary labor. He has drawn the better part of his materials from American sources, and exhibits them with method and clearness. He appears to greater advantage on this occasion from his being more of the historian and less of the controversialist than in parts first and second, in which he discussed and argued the true nature of the relations of typhoid and typhus fever to each other. It would be easy for those who are in habits of yearly intercourse, we might say, with yellow fever to point out omissions; but these will not prevent a ready acknowledgment of the obvious merits of the present history. The editor, ever sympathizing with his author, has been equally happy in the appositeness and point of the additions which he has made, and which embrace views and details derived from the most recent writers on the subject. Among these we may mention, as the most prominent, Drs. Drake, La Roche, Barton, Blair; and numerous contributors to the Southern Medical Journals and to the "American Journal of the Medical Sciences," among whom we meet with the authoritative names of Dickson, Porcher, Hume, Fenner, Dowler, and Porter. Having already exceeded the limits within which we designed to restrict ourselves in our running commentaries on the works whose titles are placed at the head of this article, we cannot quote from, still less can we offer an analysis and a criticism of the views advanced respecting the many debated points on the pathology and treatment, and more especially on the etiology and prophylaxis of yellow fever. We may, perhaps, soon be called on to say something on this last theme.

ART. II.—*A Treatise on the Diseases of the Breast and Mammary Region.* By A. VELPEAU, Membre de l'Institut, Professeur a la Faculté de Médecine de Paris, Chirurgien de l'Hôpital de la Charité, &c. Translated by MITCHELL HENRY, Fellow by examination of the Royal College of Surgeons, &c. &c. London, 1856. Printed for the Sydenham Society.

A Treatise on Cancer of the Breast and of the Mammary Region. By A. VELPEAU, Member, &c. Translated from the French by W. MARSDEN, M.D., Surgeon to the Royal Free and Cancer Hospital. London. Renshaw, 1856.

THE treatise before us, from the pen of the great French clinical professor, is devoted to the consideration of the diseases of the breast and of the mammary region. The original of this work appeared in Paris in the early part of the year 1854, and attracted, at that time, to a very considerable degree, the attention of the surgical public. It embodies the vast experience of one who, for more than thirty years, has occupied a position deservedly high in his profession, and whose opportunities for observation have been rarely, if ever, equalled. M. Velpeau combines the characteristics of a scientific investigator with those of a great practical surgeon; and we would therefore naturally suppose that any treatise emanating from such a source could not but be destined to occupy a lasting place in the literature of the profession. The very fact of the translation of this work into English having been undertaken by two writers, one of them under the auspices of the Council of the Sydenham Society, seems in itself sufficient testimonial to its excellence.

In the Author's Preface, we are informed that the treatise under consideration is designed to partially fill a vacuum which now exists in French practice concerning diseases of the mamma. The work of Sir Astley Cooper, and the articles of Boyer and others, are evidently looked upon as obsolete; and the present monograph, based upon a study of more than two thousand original cases, is intended to supersede them. Whether or not such will be the case we leave it to our readers to decide.

At the very commencement of the work, the author draws the distinction between innocent or non-malignant, and malignant diseases; and the first section, constituting more than one half of the volume, is occupied with the consideration of the former.

Innocent or benign diseases are defined to be "those which, left to themselves, do not threaten the patient's life, and of which recovery is the natural termination." These are then divided into two groups: 1st, those in which the morbid process is due to the existence of the different kinds of inflammation; and 2d, those which in their access or duration, are strangers to the inflammatory process.

Under the head of inflammatory affections are included excoriations, chaps, fissures, eczema, erysipelas, milk knots, and all the varieties of phlegmon; and it is stated that many of these affections seem to exert a kind of preference in the selection of their site. Some attack the nipple; some the areola, or lactiferous tubes; whilst others affect almost exclusively the gland alone, or its investment. These diseases may, however, occur simultaneously, or spread by contiguity from one tissue to others adjoining.

Mammitis, mastitis, or inflammation of the breast, properly so called, M. Velpeau next proceeds to discuss. His arrangement of this disease is the one which he first proposed in 1825, and which has since been adopted by MM. Nelaton, Berard, and Vidal. This division is founded upon the exact anatomical seat of the inflammatory process, and is insisted upon somewhat decidedly by the author, in consequence of the different treatment which he considers proper under each circumstance. The first form of inflammation is that which occurs in the subcutaneous cellulo-fatty substance which is situated between the gland and the skin. The second variety is seated either primarily or secondarily beneath the breast, between the gland and the walls of the chest; whilst the third and last variety occupies the substance of the gland itself. In tabular form they may be thus expressed:

Phlegmon.	1. Inflammation, superficial or *subcutaneous*,	Circumscribed. Diffuse. Primary. Secondary. Complex.
	2. Inflammation, deep-seated or *submammary*,	Idiopathic. Symptomatic. General or diffuse. Partial or circumscribed. Primary or secondary.
	Lactiferous Engorgement.	
	3. Inflammation, glandular or *parenchymatous*,	Of the milk tubes. Of the glandular tissue. Complex.

We will not weary our readers by entering into a minute analysis of the above subvarieties of inflammation, but content ourselves by merely pointing out the general differential diagnosis between the three main forms of the affection.

The peculiar character of subcutaneous inflammation of the breast seems to be dependent upon the anatomical arrangement of the tissues. M. Velpeau states that the skin of the breast is separated from the deeper structures by a layer of cellulo-fatty substance, which forms a portion of the general superficial fascia. This layer passes outwards, and becomes continuous with the subcutaneous fascia of the chest and axilla, but is nowhere reflected between the breast and the walls of the chest. It is thinnest in the neighborhood of the areola, at which point it blends with the skin, and with the capsule of the gland.

It follows from this arrangement, that inflammation of this tissue is lighter in its character and of less consequence as it approaches the nipple; and, moreover, that there exists but little tendency in abscesses forming in this region to burrow in the neighborhood of the deeper-seated parts.

The whole subject of mammitis is thus summed up:

"Idiopathic subcutaneous inflammation arises in the breast under the influence of the same causes as in all other parts of the body. Deep-seated inflammation may proceed from external violence, or from affections of the chest or axilla, but usually originates in some affection of the breast itself.

As for inflammation of the gland-structure, it is obvious that lactation, confinement, or pregnancy, constitute almost its exclusive sources."

The symptoms of the subcutaneous variety are: "Those of inflammation, being characterized by redness, circumscribed or diffuse tumefaction, which is elevated above the surface of the integuments, and accompanied by a sort of œdema or puffiness, the whole being essentially different from that form of inflammation beneath the breast, which manifests itself from the commencement by a raising up of the whole mamma, and often remains till the end without giving rise to well-marked redness, or to manifest irregularities on the surface of the part. Neither can we confound this inflammation with that in the glandular structure, which shows itself primarily in the form of bosses more or less deep and numerous, and is preceded or complicated with suppression or retention of the milk, and often involves several parts of the breast at the same time.

Subcutaneous inflammation, like ordinary phlegmon, lasts little more than a week before it terminates in abscess, in abscess which usually remains single, and seldom, when formed, escapes the attention of the practitioner. Deep-seated inflammation, on the contrary, although perhaps developing itself more rapidly, presents this remarkable feature,—that suppuration, if it take place, cannot be recognized until considerably later.

Parenchymatous inflammation is almost always constituted of several successive inflammations, so that in some instances it may last for one, two, or three months.

So marked a difference in the symptoms and progress of the cases naturally entails noticeable differences in their termination and prognosis. When energetically attacked from the commencement, both superficial and deep-seated inflammation may sometimes be put an end to, and terminate in resolution. In the gland itself, inflammation, if it be at all acute, almost inevitably leads to the formation of one or more abscesses.

As for the treatment, it has every chance of succeeding, if it be appropriately selected for each kind of inflammation,—leeches in large number to the affected part, mercurial friction, compression. Topical remedies, generally useful, succeed well in subcutaneous phlegmon. They are, on the contrary, inadequate in deep-seated and also in parenchymatous inflammation. Deep-seated inflammation which is not benefited by them, and is aggravated by compression, requires general bleeding, with leeches around the breast, and large poultices with mercurial ointment. It is in glandular inflammation that purgatives, alterative drinks, and topical applications, purely emollient in character, are useful. Ammoniacal, camphorated, and opiate liniments, are equally applicable to lactiferous engorgements.

When, in short, we find that, in spite of all our treatment, mammary adenitis often lasts, by becoming extended, a considerable number of weeks, whilst under appropriate treatment subcutaneous and submammary inflammation scarcely continue more than from a week to a fortnight, the importance of the distinctions laid down above ceases to be questionable."

Painful enlargement of the breast, the result of *lactiferous engorgement* of the milk-tubes, is to be carefully distinguished from inflammation, in the following manner: In the first place, there is no inflammation in the surrounding tissues. 2d. If the normal state of fluidity of the milk be restored, the symptoms cease. 3d. It disappears from day to day under the influence of heat or stimulant applications. The treatment consists in emptying the engorged ducts, either by the mouth of the child, or else by artificial suction.

From what has been said relative to the seats of inflammation it follows, necessarily, that the resulting abscesses will occupy the same location. M. Velpeau, consequently, describes abscess of the breast under three forms: subcutaneous, submammary, and glandular.

The position of the first variety is most frequent, according to the experience of M. Velpeau, upon the external and inferior portion of the breast,—a fact which he attributes to the dependent position of the organ.

The *second* or submammary form is generally ushered in by considerable constitutional disturbance, shivering, and lancinating pains. The tendency of these abscesses is generally to open at some point in the circumference of the breast; hence the incision for the evacuation of its contents should generally be made in this region, and at the most dependent point.

A peculiar form of abscess described by the author is the *shirt-stud* abscess (*abcès en bouton de chemise*). In this variety the purulent matter extends from behind the gland forwards, following the septa of the breast, and eventually gives rise to the formation of one or more subcutaneous depots, which communicate with the original submammary abscess by means of the intervening sinus. The cure under these circumstances is best obtained, in the judgment of M. Velpeau, by following the practice of Mr. Hey, of Leeds, which consists in laying open the sinus throughout its entire extent by a free incision, and in the subsequent introduction of dossils of lint, so that the wound may granulate from the bottom.

The parenchymatous or true glandular abscess is, however, by far the most common variety, and is met with most frequently after confinement, and much more frequently in women who suckle than in those who do not. Thus, in the appended statistical résumé of more than 200 cases, we find that "the varieties of abscess were: subcutaneous, 37; submammary, 38; glandular, 95; not specified, 6. The causes were: contusions, 20 times; eczema, 3 times; pregnancy, 7 times; confinement, 110 times; cracks in nipple solely, 2 times; a needle impacted in breast, 1 time; chills, 6 times. As regards suckling: had nursed, 75; had not nursed, 4."

The chapter is terminated by the advocation of compression as a curative agent of acute inflammation of the breast. This treatment was openly advanced by the author in 1826, since which period he has frequently employed it. He now claims that "it is one of the best resources that we possess, in the case of simple, or as in the preceding cases of complicated subacute sucklings, accompanying or following abscess of the breast." At the same time, M. Velpeau admits that there are very many cases in which it can scarcely be employed at all, and others in which its application is too troublesome and difficult. When desirable, pressure can be best exerted by means of strips of adhesive plaster. To be effectual, it must be well done; badly applied, the condition of the patient will only be aggravated.

In Chapter II, the diseases of an innocent nature, not inflammatory, are considered.

Ecchymosis.—M. Velpeau recognizes with Sir Astley Cooper two varieties of this affection: 1. Spontaneous ecchymosis, occurring chiefly in unmarried girls, at or immediately preceding the catamenial period. This variety is referable chiefly to defective menstruation, and to the sympathetic relation subsisting between the uterus and mammary gland. 2. *Contusion*, properly so called, produced by external violence, causing vascular rupture. Injuries of this character not unfrequently prove the exciting causes of tumors, malignant or otherwise.

The earlier pages of the second section treat of the manifold *engorgements* of the breast. M. Velpeau, although objecting to this term, still thinks proper to retain it.

Physiological engorgement, he defines to be that change in the shape and size of the mamma occurring chiefly in young unmarried women at the approach of the menstrual period. It is not a disease, but disappears rapidly, and is dependent upon excitement of the genital and sexual functions.

Simple engorgement may result from blows, falls, and various irritations; or they may occur during the progress of pregnancy. Frequently, these engorgements depend upon the existence of subacute inflammation, and the treatment will be sufficiently indicated.

Hypostatic engorgements, dependent upon the weight and pendulous condition of the breast, are often met with, especially in women who have borne children, and whose breasts are soft, heavy, and pendulous; and also in those whose breasts are simply voluminous. The treatment consists in the application of a suspensory bandage, handkerchief, or adhesive strip.

The consideration of the different varieties of innocent tumors occupies the remaining pages of this section. Innocent or homologous tumors may be divided, according to M. Velpeau, into two classes: 1. Those which consist of solid materials: 2. Those containing liquid or pultaceous matter —in other words, concrete tumors or cysts. At the same time, the word cyst is not to be too strictly interpreted, for it must be borne in mind, that solid tumors are often surrounded by a perfect sac.

Concrete tumors also admit of further subdivision, according as they consist either of exaggerated developments of normal tissues, or of new products. *Hypertrophies*, the first of these divisions, are then minutely considered; after which the author passes to the examination of lipomata, which may be mistaken for cystic tumors, as happened, we are informed, to himself.

Induration of the mamma, we are told, is of two kinds, subacute and chronic, with and without tumefaction or swelling. This section contains little that is new. We would, however, remind our readers that this induration has been made the subject of special investigation by Mr. Birkett, who tells us that the essential element of the disease consists in an excessive packing of epithelial cells in the cæcal terminations of the ducts, dependent doubtless upon some exalted action in the terminal cæci.

The pages devoted to neuromata or nodosities present us little that is interesting; the cases are unsatisfactory, and in no instance have the tumors been subjected to microscopical examination. Indeed, this fact strikes us most forcibly throughout the entire work, and we are often led to doubt the results placed before us, despite the self-vaunted skill of the author as a diagnostician.

The chapter on neuralgia of the breast appears to us as especially unfair. M. Velpeau claims to be the first to draw the attention of the profession to the existence of neuralgia of the breast, unaccompanied by the formation of tumors. Sir Astley Cooper, however, as early as 1829, distinctly described the characteristics of the disease.*

Under the head of *imaginary tumors*, M. Velpeau alludes to those frequent instances in which a nervous female, after the reception of some real or fancied injury, is led to believe in the growing development of a tumor. This belief is sometimes fostered by an injudicious examination on the part of the surgeon, or by the existence of abnormal peculiarities in the region hitherto unobserved. Thus, irregularity in the size and forms of the lobules of the gland, undue form and irregular projection of the ribs, may, if they be not properly interpreted, contribute to mislead the patient, and perhaps the surgeon. M. Velpeau quotes instances of this kind.

Galactoceles, lacteal swellings, or tumors, formed of milk, were originally described by Sir A. Cooper as arising from chronic inflammation and obliteration of one or more of the lactiferous tubes near the nipple. These same tumors are arranged, by our author, somewhat differently; thus: 1. Galactocele, from infiltration; 2. Liquid galactoceles, or lactiferous cysts; and,

---

* Diseases of the Breast, Am. Ed. p. 55.

3. Solid or concrete galactoceles, or butyrous tumors. In this latter form, M. Velpeau thinks that he has observed a tendency to return, and he asks himself the question, whether, in the primary operation, it would not be better to perform the ablation of the entire gland, rather than the mere removal of the tumor.

The consideration of *mammary cysts* and *hydatids* occupies the remaining thirty pages of this section. M. Velpeau is evidently disposed to question the observation of Sir Astley Cooper and Dr. Warren relative to the frequency of true hydatid cysts, dependent upon the presence of the parasitic echinococcus hominis. He avers, that he himself has never met with any such case; and he believes, that very frequently ordinary serous, or sero-sanguinolent cysts, have been mistaken for the variety in question. From the perusal of these pages, it seems to us, that the author is not sufficiently conversant with the views of the more recent English pathologists relative to mammary affections; or, even if he be, that he is inclined to lend them but little faith.

The terminal fifty pages of this section are devoted to the description of the pathology and treatment of a class of tumors, to which M. Velpeau applies the term "adenoid."

These growths were originally described by Sir Astley Cooper, under the name of "chronic mammary tumors"—an appellation, which, in the opinion of the author, is objectionable, since it may perhaps be suggestive of mammary inflammation. The term "adenoid" (glandlike), he considers to be preferable; being sufficiently descriptive of the external or naked-eye appearance of the tumor, and, at the same time, non-committal as to their histological character.

These tumors occur chiefly in unmarried females, or in women who have never borne children, and more especially in those under the age of thirty years. Their development is usually slow, and unattended by pain; but their chief characteristic is *mobility.* Pressure causes them to slide upon the surface of the gland; and, in so displacing them, we feel, at the same time, that no portion of the gland follows them. Our author informs us, that Sir Astley Cooper and Berard have erroneously supposed that these tumors were always, or nearly always, "subcutaneous," and superficial to the gland; and, he adds, that such is not the case, as he himself has found, on many occasions, that they occupy every portion of the depth and thickness of the breast. Upon this point, however, M. Velpeau has evidently misunderstood Sir Astley, who expressly states, that such a tumor generally appears to be superficial, "excepting if it spring from the posterior surface of the breast, when it is deep-seated, and its peculiar features are less easily discriminated."*

---

* Diseases of the Breast, Am. Ed. p. 39.

The pages devoted to the "Pathological anatomy of adenoid tumors," offer us but little that is new; indeed, we do not even find a recapitulation of what is already known upon the subject. A good deal is said concerning "granular," "cauliflower," or "pomegranate," appearances; but we find hardly any observations, or facts, upon which we can really rely. The labors of Lawrence, Birkett, Paget, Lebert, and others, are slurred over, if not entirely ignored, and the results furnished by the microscope are dismissed with a covert sneer.

The real structure of these tumors has already been almost entirely elucidated. Cooper describes them, "As if nature had formed an additional portion of the breast, composed of similar lobes;" and Mr. Birkett characterizes their microscopical structure as strikingly similar to that of an inactive mammary gland, as, for example, that of the male; and he is corroborated in his assertions by the studies of Paget and Lebert.

M. Velpeau looks upon these tumors as those of an essentially innocent nature; although, at the same time, he throws out the idea of a possible subsequent cancerous degeneration.

The treatment to be pursued is summed up thus: If the tumor is stationary, and the patient comfortable, let it alone; if the woman be of an irritable and anxious disposition, make use of resolvent applications and placebos. When, however, the anxiety of the patient is such as to prey upon her mind, advise surgical interference, telling her, at the same time, that there is no danger in the retention of the tumor, although there is small chance of a cure following the use of medical applications; and, moreover, that the tumor, once extirpated, cannot return.

We would remark, however, before closing our analysis of these tumors, that most often their early development is due to some sympathetic uterine or sexual influence; hence, it has not unfrequently happened, as in the instances recorded by Sir A. Cooper and our author, that marriage, pregnancy and, suckling had proved the means of effecting radical cures, —tumors, existing in one or both breasts, gradually subsiding, and never afterwards making their appearance.

The section on innocent tumors, 334 pages, closes with a table of "Adenoides, operated upon successfully by the author," from the year 1836 to 1853, inclusive. Total, 60 operations; not one of the patients died; all eventually recovered.

Diseases of a malignant nature, or cancers of the mammary region, are considered in the second section of the work.

Premising that "cancer of the mamma" differs neither in its nature, nor in its form, from cancer of other parts of the body, M. Velpeau offers us the following tabular division of the disease:

SCIRRHUS—
- I. § 1. Ligneous scirrhus.
    - (*a*) Scirrhus, properly so called, or globular.
    - (*b*) Radiated or branched scirrhus.
    - (*c*) Cuirass-formed, or tegumentary scirrhus.
    - (*d*) Hard or ligneous scirrhus, "en masse."
    - (*e*) Atrophic scirrhus.
    - (*f*) Pustular, or disseminated scirrhus.
    - (*g*) Scirrhus of the lactiferous ducts.
  - § 2. Lardaceous scirrhus.
- II. Encephaloid.
- III. Melanosis.
- IV. Chondroid, colloid, fibro-plastic cancer.
    - 1. Napiform tumors, or fibro-plastic, properly so called.
    - 2. Colloid cancer.
- V. Epithelial cancer, or epitheliome.
- VI. Keloids.
- VII. Anomalous cancer.

Under the denomination of "ligneous" or hard scirrhus, M. Velpeau includes a kind of tumor possessing the density and inextensibility of wood. These masses are without fixed limits, and are continuous, without appreciable lines of separation, into the neighboring tissues. It is during the course of this form of the disease, that the integuments covering the tumor are especially apt to become involved, acquiring a grayish tint, and that wrinkled, honeycombed appearance, which the writer conceives to be pathognomonic of hard cancer.

The *cuirass-formed* or tegumentary scirrhus, "scirrhus en cuirasse," is a variety of this affection, which is minutely described—commencing either in a single disc or at several isolated points in the integument of the breast. This morbid process may extend itself by gradually-increasing plates, until finally the whole anterior portion of the thorax may be plated or enveloped. Dissection reveals the seat of the affection to be exclusively the skin, which, sometimes greatly increased in thickness, may eventually acquire a density which is comparable only to the tanned hide of an animal. The early development of this form of scirrhus is insidious, so much so as to escape the attention of the patient, and even of the surgeon, unless he be on his guard. Two cases of this variety, the prognosis of which M. Velpeau considers of the most unfavorable kind, are reported in detail.

Under the term "scirrhus en masse," the author describes that form of cancer, in which the whole tissue of the mammary gland is involved almost simultaneously. This may occur, however, sometimes as a secondary form, following, for example, the cuirass-formed cancer before mentioned.

It is to be carefully distinguished from the second great group of carcinomatous disease, viz., the lardaceous cancer. In this latter form, the disease, although involving finally the greater portion of the gland, seems to commence by invading at first simply some of its more deeply-seated lobules.

Its density is sensibly less than that of the true ligneous scirrhus, and the integuments are, of all the tissues, the last involved.

Although M. Velpeau has drawn the lines of demarcation between the various forms of hard cancer, with great nicety, he, at the same time, informs us that he does not wish to be understood as assuming these varieties to be essentially distinct. He tells us that they all possess the same base, and are of the same nature. The general grounds of distinction upon which he most relies, are the hardness and density of the masses, and, the fact already noticed, that all of these tumors are, as it were, confounded with the surrounding natural tissues. He states, also, that he considers that there is not one of all these heterologous products, which is not formed by a degeneration, or transformation of the primitive anatomical element, rather than by a deposit of foreign matter. In this view, M. Velpeau stands at variance with many, indeed, most of the best English and German pathologists, who regard the cancerous matter as a new formation, deposited from the blood in infiltrating masses in the substance of tissues previously sound.

The *encephaloid* variety of cancer is treated of in the second article of this chapter. For the purposes of clinical study, M. Velpeau divides tumors of this nature into two classes, one of which he calls *fungous*, and the other, of a tolerably firm consistency, *lardaceous*.

These tumors commence by the formation of diseased masses at some distance beneath the integuments, and in their early stages present to the touch the feeling of knotted swellings. These swellings, with their subjacent indurated bases, are likened by the author to "the head of a cauliflower," buried deep in the principal masses.

The development of these tumors takes place with considerable rapidity, and the skin, instead of being thickened, indurated, wrinkled, and retracted, as in scirrhus, becomes distended and thinned, assuming a glistening or polished appearance. The transformations which takes place during the progress of the encephaloid cancer are dwelt upon at length, and the peculiar characteristics of the different species of ulcerations are carefully discriminated.

The chapter on *melanosis* or black cancer, is somewhat meagre, and no new facts concerning this much-disputed subject are elicited. The author believes melanotic cancer to be a form of the disease peculiar in its characters, and does not adopt the view hitherto so generally held, viz., that melanotic cancer is simply a form of the ordinary carcinoma, discolored as it were by the addition of pigmentary corpuscles.

The remaining pages of this first chapter are appropriated to the examination of some of the rarer forms of cancer, the chondroid and fibro-plastic cancers. It is in these tumors that so many of the fibro-plastic elements, mere elements of growth, occur; and as a general rule, they are not considered to be malignant.

Chapter second of the work is devoted to the study of the diagnosis of cancer. The distinction between the scirrhus and encephaloid varieties is thus described: "The scirrhus has always in it a something hard, the encephaloid a something soft; the encephaloid gives the idea of embossments (*bosselures*) tending to swell irregularly, to become prominent externally; in the scirrhus, on the contrary, the tumor and the integuments have a shrivelled, indurated look; the encephaloid distends, thins, reddens, and ulcerates the skin from within outward; the scirrhus seizes on the integuments by dragging them toward it, thickening them at first, corrugating or folding them, and seems to give rise to ulceration from without inward." The diagnosis between the different varieties of hard cancer is, however, according to the writer, more difficult, since some of them present to a great degree the same external characteristics; as for example, the chondroid and colloid cancer, and the simple innocent adenoid. The distinction between the encephaloid and melanotic tumors is at first easily made out; but as the former advances in its course, and assumes more and more the peculiarities of the fungus hæmatodes, embarrassment may arise; on the other hand, harmless tumors, infiltrated with carbonaceous or pigmentary matter, may at first sight be mistaken for melanosis.

The form of cancer which M. Velpeau denominates as keloid, is described as occurring only in the skin. He considers it, in fact, as a kind of transformed cicatrix, recognizable from ordinary scirrhus, from the fact that it occurs in patches raised above the level of the surrounding integument, in relief as it were. Its color is reddish, and its section perfectly homogeneous. It, moreover, never furnishes under pressure the so-called "cancerous juice." These facts serve, in the opinion of the author, always to distinguish this form of cancer from the true scirrhus; in which latter, should it involve the skin, there always exists a tendency to depression, or ulceration. It presents, in addition, a more unequal firmness, and furnishes besides a cancerous juice.

The second portion of this chapter treats of the diagnosis of cancer by means of the microscope. M. Velpeau passes in review the studies of microscopists during the last twenty years, and admits that the labors of Müller, Vogel, Virchow, Bennett, Lebert, Robin, and others, are sufficiently interesting, in a scientific point of view. He thinks, however, that as yet we have not realized results of a sufficiently *practical* nature to warrant our basing a diagnosis of malignant tumors simply upon a reference to the microscope. Researches by means of this instrument M. Velpeau does not forbid, for he adds: "By all means, let microscopic researches be called in to aid in the diagnosis of cancer; but in a clinical point of view they would lead to dangerous errors, if a real importance were acceded to them. . . . . The cancerous cellule exists, according to the evidence of microscopists themselves, in products which absolutely have nothing cancerous in them."

The chapter on the utility of the microscope as a means of diagnosis terminates with the following passage:

> "We may say, then, of the microscope what I said of the pain,—it clears up nothing, and creates only doubt and uncertainty at the time when its aid is most wanted, in the first period of cancerous tumors; the diagnosis of the disease is sufficiently clear, on the contrary, when it is in a position to give an affirmative or negative evidence.
>
> "Thus, I do not admit that it is as yet possible to diagnose a cancer of the breast by the microscope, better than by means of ordinary semeiology, and of purely clinical observation."

The nature and etiology of cancer form the subject of the third chapter. External violence *alone*, or repeated irritations, are not sufficient, in the judgment of M. Velpeau, to give rise to the development of cancerous growths. At the same time, the apparent influence exerted by external causes in the production of the disease is not entirely denied. In the category of tumors produced, perhaps, in this manner, we observe the so-called cancroid growths,—the epithelial cancers and tumors of most writers. Instances of carcinomatous affections, the result of the use of issues, blisters, and the application of caustic sulphuric acid, are also adduced in this connection.

In all these cases, however, the author seems to believe that a special predisposition to cancer has existed; and he is inclined to look upon external irritations simply as the occasional causes, without which, perhaps, the constitutional affection would not have been made manifest.

This predisposing cause M. Velpeau considers to be found "neither in the age, nor sex, nor in the constitution, nor in the general state of the health, nor in the climate, nor even in the nature of the tissues."

We must confess, that we derive but little information from the pages devoted to this subject, and indeed it seems as if we are forced to adopt the general conclusion, that the causes and origin of the disease are as yet utterly unknown.

The prognosis of cancer forms the subject of the next chapter. This we may dismiss in a few words. Cancer, unresisted, never disappears, and unless the disease be checked by therapeutical measures, death, in some form or other, must be the inevitable result.

The treatment of cancer, M. Velpeau then proceeds to consider. Internal medication, by means of purgatives, hemlock, arsenic, mercury, the iodides, quinia, and cod-liver oil, he passes in review, and with this conclusion:

> "To express it in two words, the cancerous nature of the disease being fully established, no remedy, no internal treatment has been discovered equal to its cure."

The external application of ointments, plasters, pastes, and poultices, have led to results no less unfavorable. The use of compression, as a curative means, M. Velpeau believes to be inefficient; and he regards the cases of reported recoveries under its application as unfounded, and explains them away by reference to errors in diagnosis. This peculiar mode of rebutting testimony strikes us, more especially in other passages, as one of the most unpleasant features in the volume before us. Whilst we admit with pleasure M. Velpeau's well-known skill as a diagnostician, we still think that at times he claims even more than is his due, in bringing forward his own diagnosis as almost infallible, at the same time dwelling with so much stress upon the proneness of all others to err.

The question of the treatment to be attempted in cases of cancer is ushered in by the author in the following terms:

> "Must we, therefore, renounce all medical treatment of cancers of the breast? This is not my opinion. Although nothing hitherto has succeeded in overcoming this frightful disease, one is not the less obliged to oppose some remedy to it, at least as a palliative, from the commencement to the end. Besides, all that I have said is applicable only to evident cancer. Now, for the practitioner who is not sure of his diagnosis, and for the periods and the forms of disease still admitting of doubt, there is evidently room not to leave the patients without treatment.
>
> "If you have to do with a partial hard scirrhus, or a hard scirrhus *en masse;* with a pustular or plated scirrhus, disseminated or of the cuirass form; with an encephaloid, epithelial, melanic, chondroïd, or fibro-plastic cancer, reckon on nothing; palliatives alone can be employed. But if the diagnosis be uncertain, and the tumor seem to hold a middle place between a scirrhus and hypertrophy of the mamma, between scirrhus and old phlegmasic indurations, between the lardaceous scirrhus, whether partial or *en masse*, and simple lardaceous indurations, then we must act.
>
> "Active treatment seems to me the more indicated in such cases, that I have seen the actual cure by treatment of tumors which considerably resemble scirrhus, presuming always that these were not cases of true scirrhus."

In the ensuing article M. Velpeau gives us a general outline of his own method of dealing with malignant tumors at their commencement, or with innocent tumors, in which the diagnosis is obscure. This treatment consists in the application of leeches in the neighborhood of the tumor, the use of soap or hemlock plaster, frictions with mercurial or iodine pomades, mucilaginous or alkaline baths, and the internal administration of iodide of potassium or cod-liver oil.

If the case in question be of an encephaloid character, in which ulceration has already taken place, saturnine and astringent lotions, and the internal use of narcotics will be clearly indicated.

In the pages devoted to the consideration of the curative treatment of cancer by surgical interference, the author again returns to the study of the nature and etiology of the disease.

Opposition to the operation, he states, is based upon three distinct reasons: first on observation; secondly, on theory; and, thirdly, on the microscopic nature of the evil.

Observation of the results of excision of these tumors, does not, in the opinion of the writer, militate against the idea of operation. M. Velpeau is satisfied from his own experience, that complete and radical cures do frequently take place after one or more operations. In support of this view, five cases are advanced occurring in the author's own practice. He is, therefore, not inclined to lean too much upon the opinions and statistics of Cruveilhier, Boyer, Scarpa, and others, who have made the matter of operation a subject of investigation, but whose conclusions differ from his own.

The theoretic objection is based upon the question, whether cancer at its commencement be a local or constitutional affection. On this point we have already expressed the author's view, although it seems to us that certain passages bearing upon this subject are hardly reconcilable with each other.

The third objection drawn from data furnished by the microscope, is one which M. Velpeau is not at present prepared to admit,—as he adds:

> "Moreover, it is not indispensable that the microscope be called in to decide whether a tumor just removed be cancerous or not. Place on one hand the harmless, and on the other the malignant, I do not hesitate affirming, that, with the clinical ideas I have so long endeavored to popularize, an experienced practitioner will distinguish without difficulty the cancerous from the non-cancerous. On this point I appeal to micrographers themselves, and especially to MM. Lebert and Follin, who observed my practice for several years. Have they not seen me, a hundred times, at the hospital, declare the nature of such tumors, decide on what was cancerous and what not, before and after the operation; and in this respect has their microscope ever done more than confirm the diagnosis I had previously given? When I have positively affirmed the fact, have they ever found me wrong? A doubt in the diagnosis is only possible at the commencement of the disease; later, doubtful cases are rare. If the skilled clinical observer hesitates then, the information furnished by the microscope is not in itself of a kind to reassure him, nor to alarm, in regard to the operation.
>
> "The question, then, of operating or not, cannot as yet be decided by the microscope. What may be conceded to it as yet is, that the presence of cancer-

ous cellules, so called, in a tumor presenting in other respects the characters of cancer, is calculated to augment the fears of a relapse after the operation, as their absence would increase the confidence, if the tumor resembled in other respects the harmless tumors."

The arguments in favor of the operation are then summed up under the following heads:

"From all these difficulties, embarrassments, and from a crowd of other difficulties it were easy to accumulate here, it results, in my opinion:

"1st. That no plausible reason can be given for viewing cancer as a general disease, primarily.

"2d. That, on the contrary, it ought to be considered rather as a local disease in the first instance.

"3d. That certain tumors of a harmless nature, *seem* in some cases to undergo a malignant transformation.

"4th. That harmless or malignant tumors, adenoid, and even cancerous, of the breast, are probably caused by a plastic exudation, hematic or secreted, into the normal tissues, whether spontaneous, or exalted by external violence.

"5th. That the existence or the non-existence of the cancerous cellule in tumors, is no proof that the disease will or will not return after the operation.

"6th. That it would, therefore, be imprudent to trust to the microscope in deciding for or against the operation.

"7th. That observations and statistics are far from proving that the extirpation of tumors of the breast is always followed by relapse, always useless, or even injurious.

"8th. Finally, that facts sufficiently numerous prove, that observations drawn from my own practice demonstrate, without the possibility of doubt, radical cures by operation, of cancers the most unquestionable."

The alleged dangers of the operation are then discussed. These it is asserted are not serious except in the worst and most complicated cases.

Operation it is concluded is, 1st, "preferable to all other treatment against cancers, and even against adenoid or harmless tumors of the breast; 2d, it ought to be resorted to as early as possible." This rule of treatment is not, however, intended to apply to simple inflammatory indurations of the breast, or to hypertrophic swelling.

The author next passes, by a natural transition, to the mode of performing the operation. He prefers much to place the patient in a supine position, in order to prevent the occurrence of syncope. The incisions proper in each case must be governed by the size of the tumor, and the amount of tissue to be removed. Should accessory or secondary enlargements exist, either in the axilla or in the subpectoral hollow, the advice given is to remove them either by a fresh incision, or by an extension of the principal one. In removing axillary glands, it is advisable to tear them away by the fingers, rather than to separate them with the knife, in order to prevent increased and unnecessary effusion of blood.

The remaining portion of this chapter is occupied by the after-treatment of the operation. M. Velpeau is rather inclined to favor secondary reunion, or union by granulation.

Union by the first intention, although much to be desired, is nevertheless, he remarks, but rarely obtained throughout the entire extent of the wound. Hence there is always a tendency in the part to form sinuses or abscesses, liable to take on traumatic inflammation and erysipelas. The time requisite for complete cicatrization, either by the secondary or primary reunion, is about the same,—from five to six weeks. In all cases, therefore, of extensive tumors, in which a large portion of the integuments have been removed, M. Velpeau prefers the secondary union, or as he denominates it, the union by suppuration.

Purulent infection, following phlebitis, seems to be sufficiently rare as the result of amputations of the breast. The author reports but five well-marked examples out of two hundred and thirty-five operations, of which he has preserved notes. Erysipelas, on the other hand, appears to have been quite a frequent accident, the same record offering fifty-four instances of this complication. A special variety of erysipelas, which has hitherto excited but little attention, is that to which M. Velpeau applies the term "bronzed erysipelas."

This form of the disease evinces itself from the commencement, under the guise of brownish or bronzed plates. The skin, which is its seat, is thicker than under ordinary circumstances, and the erysipelas stands out in relief upon the surface.

> "It is, as it were the ordinary erysipelas seen through a microscope. The plates are large from the beginning, and it is also accompanied from the first with a group of alarming symptoms. The pulse becomes very frequent, nausea often exists, the women are agitated, hot, tormented with thirst; they complain of anguish and suffocation; delirium comes on, and if life continues, gangrenous plates appear quickly at several points of the regions attacked with the erysipelas."

In the succeeding pages, the employment of caustics, as a curative means in the treatment of cancer, is examined. Premising that caustics have ever been the favorite agents of the quacks and empirics of all ages, M. Velpeau states that he has still thought it his duty to study their action. Since 1830 he has, therefore, despite the general anathema launched against them, submitted them to repeated trials in his practice at the hospital, and he concludes:

> "It results from my experience that they ought not to be rejected absolutely, as a curative means. They are preferable to the cutting instrument:—1. When

the cancer is ulcerated in plates, and broader than thick; 2. Whenever by the cutting instrument there is no room to preserve a part of the integuments involved by the tumor; 3. Whenever the cancer is fungous, exactly limited, and the patient greatly dreads the action of the bistoury; 4. Ulcerated scirrhus, anfractuous or disseminated, may be attacked with caustic more advantageously than with the bistoury; 5. It is the same with cancerous ulcers adhering to the summit of the axilla under the clavicle, in the neighborhood of bones.

"Beyond this, caustics ought not to be employed but at the special request of the patient or her family, and without forgetting that the facility of their application is the cause why they are recommended and strongly praised by a crowd of practitioners who dare not open a bistoury."

The special articles which have been employed are very various. Thus the butter of antimony, the Vienna paste, caustic potassa, sulphuric acid, the chloride of zinc, and arsenic, have each and all of them at different periods been greatly vaunted.

The sulphuric acid, and the chloride of zinc are the agents which in the hands of the author have yielded the best results. Arsenical preparations should be either eschewed, or else employed with great caution in consequence of their liability to become absorbed, and so to produce arsenical poisoning.

Congelation of cancerous masses, by means of a mixture of powdered ice and sea salt, as proposed by Mr. Arnott of Brighton, may, in the opinion of the author, hereafter furnish important beneficial results. He considers this agency as especially applicable to the destruction of cancerous plates, ulcerated tumors, vegetations, and fungosities. At the present moment, however, he believes congelation to be a "means still to be studied, rather than viewed as a means positively proved."

Dismissing the subject of active treatment, M. Velpeau next enters upon the consideration of one of the gravest questions connected with this terrible malady,—the liability to relapse after operation. The unfortunate fact is, we believe, admitted by every one, that science, as yet, has afforded mankind neither any preservative against cancer, nor any remedy which can prevent relapse. The development of secondary tumors can, in the opinion of our writer, be met simply by their removal, provided always, that the "tumor or tumors be movable, easy of extraction, and that the woman has no symptom of general infection." M. Velpeau believes that he has cured radically women after two or three successive operations.

The treatment of cancer is then concluded by a series of tables of scirrhus and encephaloid, from which, we confess, we cannot derive any very positive information. Those devoted to scirrhus strike us as extremely inaccurate: 146 cases only, are reported, whilst in the summary they are considered as amounting to 197. The enumeration of cases, by successive years, presents also apparently the same exaggeration. Of the 197 cases reported, 57 were not operated upon; whilst cauterization or operation was resorted to in the remaining 140. 70 out of the 140 continued well, or were in progress of cure when lost sight of; of the remaining 70, relapse had appeared in 22; 30 were dead, and of the remainder no mention is made. In the majority of cases reported in this table, no minute examination of the tumors had been made.

The statistics of encephaloid offer us 45 records of operations; of these 9 are dead,—of erysipelas, 3; of purulent infection, 3; of pleurisy, 2; of hospital gangrene, 1,—20 left cured; there was a relapse in 18; 18, had an ulcerated cancer. A cursory notice of the diseases of the mamma in man, and in new-born infants, and children, terminates a treatise in which a vast number of cases are collected and commented upon with characteristic ability.

If, indeed, we reflect upon the exalted position, the acknowledged skill in diagnosis, and the indomitable industry of the distinguished clinical teacher, a brief analysis of whose production we have just attempted, we cannot but feel glad, that these translations should afford to it a wider field of usefulness. The translations themselves are such as to reflect credit upon the writers, and that of the Sydenham Society particularly, is enriched, by the addition of many valuable notes upon the part of the editor, Mr. Henry.

In conclusion, if we were to express our opinion of the work before us, we would say, that it is essentially a practical one; the contained facts are well stated; but the deductions seem to us frequently to be given with a preformed opinion, and, certainly, sometimes with almost a degree of malice against the researches of modern minute pathology.—J. H. B.

ART. III.—*Des Anévrysmes et de leur Traitement.* Par PAUL BROCA, Agrégé à la Faculté de Médecine de Paris, Chirurgien des Hôpitaux, etc. Ouvrage accompagné de figures intercalées dans le texte. Paris, 1856. 8vo. pp. 931.

"OF the profoundly scientific character and high practical value of the publications upon medicine, which are continually emanating from the continental press, none but they who have access to those productions of the master spirits of our art, in their original language, can form an adequate conception or correct estimate." So says Dr. Palmer, in the Preface to his "Pentaglot Dictionary," and, from our acquaintance with French authors, being fully of his opinion, we opened the work of M. Broca with the most favorable anticipations.

The extraordinary size of M. Broca's work must at once strike with astonishment. He explains it himself, in the preface, by the necessity he found himself under, of not only describing the new methods for the treatment of aneurism, but, moreover, of renewing from one end to the other the study of all the others. The three new methods are, indirect compression, galvano-puncture, and coagulating injections; which methods, so interesting, and so important, he says, have not found their place in classic treatises.

The principles, which have guided him in the composition of his work, are those that have guided Malgaigne in his; he has attempted, according to his own declaration, to do for aneurism what this eminent master has done for fractures and luxations. Malgaigne, in publishing his "Traité des Fractures et des Luxations," declared, that his object was to "fill a gap in French surgical literature." "England and Germany, in our day, count several treatises on fractures and luxations; and, perhaps, there is some room for astonishment that France should have remained behind."* M. Broca should have honestly said as much; he should have declared that he wished "to fill a gap in French surgical literature," and he would be sure to receive the credit due to one who has toiled in a good work. After the announcement of his intention to be guided by Malgaigne, we would, naturally, look for an atlas, such as the magnificent one accompanying the work of this author, and which throws upon numbers of questions the decisive light of pathological anatomy. In its place some fourteen woodcuts are printed with the text; those of any importance being taken from Hodgson. Guided by the principles of Malgaigne, he should also have terminated his work, as Malgaigne promised to terminate his, though he did not accomplish it, for some reason unknown to us, by a general bibliography of all the classical writers, who have treated of diseases of the arteries; as La Roche, of our own country, has done for yellow fever in his great work on that subject. M. Broca declares, in his preface, that he has paid special attention to questions of history and of bibliography; and he could therein have traced, as Malgaigne was to do, "the history of the art on this subject, followed the progress of ideas, the series of authors, the chronology of the great works, and of their principal editions." This bibliography would have been the more useful, for that of Erichsen, attached to his collection of authors who have written on aneurism, printed for the Sydenham Society, in 1844, does not extend farther than the end of the last century.

It may be well to quote this passage from the preface of M. Broca's work, as it will afford an idea of the spirit of the production. After stating that, at the commencement of his undertaking, he had intended only to describe the new methods, hoping to find the old sufficiently well treated of, he adds: "This hope was not realized; I was not slow in finding that the clinical descriptions were swarming with gaps and errors; that many historical questions had been entirely neglected; and that the greater number of the rest had been studied insufficiently and inexactly; that the pathological physiology of aneurism did not exist, and that no one had seriously occupied himself with the mode of action of the different methods." In the preparation of the work he declares, that he has appealed to the experience of surgeons of every country. We do not profess to be able to do anything of the kind; but, from our acquaintance with the experience of surgeons in the language in which we are writing, we can fairly declare that, in the work of M. Broca, there is nothing of any value in regard to the pathological anatomy and treatment of aneurism, which may not be found therein. In regard to the historical questions, it would be impossible for any one who had not access to the large libraries of the French capital, to discuss them with him. We can only say, that a great deal of fault must be found with the spirit in which they are written. Lamartine says, somewhere, that, "When God has a great idea to give to humanity, he places it in the brain of a Frenchman." M. Broca tries to prove that this is true, also, of the smallest.

---

* Loc. cit. page v.

In order that the reader, accustomed to the works of Miller, Erichsen, &c., may understand, let us give some extracts from what we see in recent French books. Cruveilhier, in 1852, says: "Pathological anatomy having taught us that two methods of cure existed for aneurism, to wit, first, the definite cure by obliteration; secondly, the provisional cure by coagulation; it is very evident, that the first mode of cure should be preferred whenever it is possible, and, in this respect, modern surgery leaves nothing to desire, for it has pushed skill and boldness to the farthest limits in the application of ligatures,—the only means it possesses of obtaining the obliteration of the vessel."—(Traité d'Anat. Path. Gén., Vol. II, p. 801.)

Malgaigne, in his Operative Surgery, devotes but eighteen lines to compression, and says that it can be applied only to aneurisms of the popliteal artery, or of the crural artery, and that it acts by means of a mechanical compressor applied on the arterial trunk against the pubis. This is what he said in his edition of 1849, and in his last edition, 1853, he has not added one word. All that Nélaton says is very true, but it is far from sufficient. "Compression can be exercised by means of a tourniquet, but, above all, by the aid of the compressor of Dupuytren. The compressor should, if possible, only act upon the vessel and the point diametrically opposite, in order not to hinder the circulation in the veins of the limb. It hinders the course of the blood, but does not interrupt it entirely, as some persons have thought. The sac gradually contracts. It can be obliterated by the blood which coagulates in its interior. Besides, should this compression not succeed in obliterating the vessel, it impedes the circulation sufficiently to cause the collaterals to dilate,—a fortunate circumstance, should the ligature be necessary." (Elémens de Pathologie Chirurgicale, Paris, 1844, p. 459.) In the Compendium de Chirurgie Pratique, the second volume of which, or the one containing the article on aneurism, was published in Paris, in 1851, compression is spoken of in high terms, but the compressor of Dupuytren is the instrument recommended, and it is said to act in two ways: 1st, by obliterating the vessel in the spots compressed, and 2d, by favoring the coagulation of the blood in the sac, in consequence of the obstacle caused to the circulation. "The portion of that liquid which is stagnating in the aneurismal sac loses its fluidity, and is transformed into clots." (P. 104.)

French surgery, then, had not made one step in the treatment of aneurism since the time of Dupuytren, that is, in the principles upon which the treatment should be conducted. In the publication of his clinical lectures by the Sydenham Society, in 1854, at page 34, Dupuytren, speaking of a case he had cured by compression, says: "To what was the cure owing? Was it accomplished by obliteration of the femoral, as a consequence of adhesive inflammation produced by compression? Certainly not; for in both instances the pulsation of the artery could be traced to the opening in the adductor magnus muscle. It can only be referred to coagulation of the blood in the aneurismal sac, induced by rest, and the absence of impulse from behind." This is taken from a clinical lecture delivered in 1818, and Dupuytren regards the case as one of those lucky chances which occur occasionally in the course of a long practice, but which cannot be referred to as a precedent.

Those who are acquainted with the works usually recommended here to students, those of Erichsen and Miller, for instance, will see how necessary in France was the publication of a work on aneurisms. There was a great demand there for the information contained in M. Broca's book, or the information to be found in works published in the English language in the past twenty years.

The work is divided into two parts. The first, comprising 195 pages, treats of the pathology of aneurism; the second, of their treatment.

There is perhaps no disease in which, in every point, the smallest as well as the most important, there is such difference, such contrariety of opinion, as in aneurism. These differences commence with the very derivation of the word itself; its orthography is disputed; its signification varies, and the divisions of aneurism are as contradictory as possible. *Aneurysma* is derived by some from the particle *α* privative, and from *νευρον*, a nerve, which might be translated enervation; by others from the verb *εὐρύνω*, I dilate; and by others from the verb *εὐρηνειν*, said to signify, *to gush forth*, but which we have been unable to find in our lexicon. Some write aneurism, others aneurysm. To write it with an *i* is, according to M. Broca (p. 203), "an error due to illiterate barbers, who put for the first time surgery into a vulgar tongue."* According to Miller and the Compendium de Chirurgie Pratique, *true* aneurisms are those which are the result of disease, the cyst consisting of one or more of the arterial coats, yet undivided. The term *false,* on the contrary, denotes those aneurisms in which the arterial tunics have been wholly divided, either by wound or by ulceration from without, and form no part of the aneurismal cyst. With others, as Nélaton and Erichsen, an aneurism is *false* as soon as one of the coats is torn. A rupture of one or two coats, with dilatation of the rest, is called by many authors a *mixed* aneurism, by which they mean that it partakes both of the true and of the false; it is mixed internal or mixed external, in accordance with the coat that may be preserved. With some surgeons, an arterial wound, with diffused cellular hemorrhage, is a primitive false aneurism; and with circumscribed, a consecutive. M. Broca, by primitive, means that the aneurism was produced at the moment of the accident, and by consecutive, that it manifested itself at the expiration of some time, some weeks, or even years.

Nélaton, by the word aneurism, signifies "every tumor formed by arterial blood contained in a dilated artery, or escaped from the vessel, but always communicating with it, and penetrating or not into a vein." Cruveilhier declares that we ought not to consider as an aneurism a tumor formed by blood effused around an opened artery; aneurism, properly so called, belongs to the class of dilatations; diffused or circumscribed cellular hemorrhage belongs to solutions of continuity. "The truth of these reflections is proved by the denomination of *false* aneurism, under which traumatic aneurism is designated: suppress at least from pathological anatomy the expression of *false,* which seems to accuse it of inability to determine certain morbid lesions;" (loc. cit. vol. ii, p. 724.) Gerdy says of false aneurisms: "There is nothing false in all this but the language, and the language is false only because the ideas are confused." (Practical Surgery, vol. ii, p. 537.)

The definition of M. Broca does not suffice for all the necessities of practice, as does the definition of Nélaton, and at the same time it admits into the class of aneurisms other tumors of arterial origin, which should be excluded by a definition given on scientific principles. "Aneurysm is a circumscribed tumor, full of blood, liquid or concrete, communicating directly with the canal of an artery, and limited by a membrane, bearing the name of sac." Though he has given a new definition, however, he does not abide by it, but virtually adopts that of Nélaton, for he does not reject from the class of aneurisms what are called *diffused* aneurisms. He does so because they only differ from others by one character, namely, the absence of a membranous wall. He therefore does not hold to the sac, the only point in which his definition differs from Nélaton's. He does very well not to abide by his definition; for bloody and pulsating tumors, not provided with a sac, at a certain period, can afterwards become encysted; it is often impossible, during life, to know if they have a membranous wall or not, and moreover, in both cases, the therapeutical indications are very often the same.

---

* An orthography founded on etymology, though preferable on many accounts, is in many cases impossible, and the usual mode of writing should not be changed to suit a derivation. To write *y* for upsilon is very well, but custom writes oxide, and not oxyd, aneurism, and not aneurysm, and therefore they are correct. A strict adherence to etymology would cause much odd orthography; for instance, as in the Greek root the *r* is aspirated, we should spell rose *rhose.*

The classification of aneurisms is necessarily very complicated, and as a correct knowledge of that adopted by M. Broca is necessary for the understanding of the precise value he attaches to certain words, his table of the different kinds of aneurism is copied. In order to designate the direct and permanent communication of an artery with a vein, M. Broca makes use of the word *phlebarteria*, a neologism that may well be pardoned, as it shortens much the description of the pathological condition of the parts. The word, however, has been already used by Piorry, in order to designate disease of the pulmonary artery, which M. Broca has omitted to mention.

I. ARTERIAL ANEURISMS.

A. CIRCUMSCRIBED ANEURISMS (aneurisms provided with a sac).

1. The sac is formed by the three tunics uniformly dilated.	TRUE ANEURISM.	
2. The sac is formed only by the external tunic, the two others being torn or destroyed.	EXTERNAL MIXED ANEURISM.	A. *Sacciform.* B. *Fusiform.* C. *Dissecting.*
3. The sac is constituted by a membrane of new formation, the three tunics of the artery being divided at the same time.	FALSE OR ENCYSTED ANEURISM.	A. *Primitive.* B. *Consecutive.*
4. The sac is formed by a cyst developed primitively in the thickness of the arterial wall, and opened consecutively into the cavity of the vessel.	CYSTOGENIC ANEURISM.	

B. DIFFUSED ANEURISMS (aneurisms deprived of a true sac).

1. Effusion of blood contained in an irregular cavity, and resulting from the tear of an artery.	PRIMITIVE DIFFUSED ANEURISM.
2. Effusion resulting from the rupture of a circumscribed aneurism.	CONSECUTIVE DIFFUSED ANEURISM.

II. ARTERIO-VENOUS ANEURISM.

A. SIMPLE PHLEBARTERIA, or ANEURISMAL VARIX (arterio-venous communication, with varicose dilatation of the veins, without circumscribed aneurismal tumor).

B. VARICOSE ANEURISMS (phlebarteria, with aneurismal tumor).

1. The sac is formed by the circumscribed dilatation of the vein at the level of the phlebartery.	VARICOSE ANEURISM BY DILATATION.	*Simple*, or communicating with only one vein. *Double*, or communicating with two veins, and forming two sacs (aneurism of Park).
2. The sac is formed by a membrane of new formation.	ENCYSTED VARICOSE OR FALSE CONSECUTIVE VARICOSE ANEURISM.	*Arterial*, the sac situated on the artery (aneurism of Rodrigue). *Venous*, the sac situated on the vein (aneurism of A. Bérard). *Intermediary*, the sac situated between the vein and the artery.

It will be seen from the table that the tumor due to the dilatation and lengthening of one or more arteries, which become flexuous as veins affected with varix, is not classified as aneurism. The march and structure of the tumor are so different from those of aneurism, that it would be best to keep the name of arterial varix, by which Dupuytren designated it. The erectile tumors, called *anastomotic aneurisms*, *aneurisms by anastomosis*, and the bloody tumors of bones, are also very properly rejected from the list.

As to the *dissecting* aneurism, Broca limits himself to a simple mention of its existence and of its mode of formation, "as the diagnosis is almost always impossible, and the internal seat excludes the idea of surgical treatment." It has, in fact, only been observed on the large arteries of the trunk of the body, on those, as Erichsen says, "in which the middle coat is highly developed, and the yellow elastic tissues abundant." He says no more, also, of *cystogenic* aneurisms, about which authors disagree, some, as Hodgson, supposing that the arterial cyst, far from being the cause of the aneurism, is, on the contrary, the effect. M. Broca, from some specimens he has seen, is inclined to believe it the cause.

In a therapeutical point of view, the form of the aneurismal sac and the nature of its connections with the artery are much more important than its origin and mode of formation; for it is they that modify the circulation of the blood that passes through them. If pathological anatomy establishes numerous species in the group of arterial aneurisms, pathological physiology, the basis of their rational treatment, is satisfied with but three categories.

1st. Those where the blood has but little or no tendency to coagulate (crateriform aneurisms).

2d. Those where it is disposed to form passive clots (diffused aneurisms).

3d. Those, finally, where all the conditions are favorable to the formation of active clots (sacciform aneurisms and fusiform aneurisms).

Before, however, entering into the consideration of this important portion of the study of aneurism, its pathological physiology, a portion wherein M. Broca, in his fifth chapter, has displayed extraordinary ability, let us glance at some of the preceding chapters of his work, treating, the second of the etiology, the third of the signs, march, and termination, and the fourth of the diagnosis of aneurism. The first chapter, comprising 37 pages, treats of the different kinds of aneurisms, and the classification adopted by M. Broca, having been given, it will not be necessary to enter into any discussion of it; it is the most complete and the most satisfactory that we have met with, after a very extensive examination of works treating of aneurism.

Aneurisms, considered under the head of etiology, are divided into traumatic and spontaneous. It is only under the etiology of the latter class that we find anything to notice. In the table of Crisp (Diseases of Blood-vessels, London, 1847) there are 551 cases of *spontaneous* aneurism, taken *indistinctly* and *exclusively*, internal and external, published in Great Britain from 1785 to 1847. Of 505 of these cases, those in which the age is given, only 5 were persons under twenty years of age. Of these, 3 were in the cranial cavity, 1 in the aorta, and the other, a child of nine years, the aneurism was inguinal. In some remarks made by Mr. Fergusson on a patient, a female, aged 22, brought into his wards at King's College Hospital, that we have met with in the Medical Times and Gazette for December 30, 1854, he states that he had never before met with a popliteal aneurism in so young a subject, and that he imagines hardly a similar instance is to be found in the records of English surgery. There can be no doubt that individuals in the prime of life, and also those who possess the greatest muscular energies, are the most exposed to aneurisms.

Of the cases collected by Crisp, 42 per cent. of the whole number were aortic, 25 per cent. were popliteal, 11 per cent. were femoral, 4½ per cent. were carotid, 4 per cent. were subclavian, 3½ were brachio-cephalic, and 3 per cent. were axillary. It is seen from this collection that popliteal aneurisms form nearly one-half of those that can be treated by surgical means. The cause generally given by authors is the frequency with which the lower extremity undergoes forcible extension. According to Dupuytren or his editor, for (as is often the case in a publication made of the oral lessons of a teacher) it is impossible to decide to whom the remark belongs, one existing cause, not yet mentioned, seems the act of drawing on tight boots. The forced extension of the ham produces pain in the ham, which does not subside for many hours. (Loc. cit. p. 67.) M. Broca attributes this predilection to aneurism for the popliteal artery to an anatomical arrangement of the parts, the importance of which has recently been shown by M. Verneuil, in a memoir "On the True and Primitive Seat of Varices of the Lower Limbs." (See Arch. Générales for 1855.) Contrary to the general opinion, varix always commences in the deep-seated veins of the posterior region of the leg; the venous dilatation stops suddenly at the level of the point where the tibio-peroneal vessels traverse the ring of the soleus, and it is due to the obstacle which this muscular ring opposes to the return of the blood. M. Broca says, "It appears certain that the arterial circulation must also be hindered, and the ring must act on the artery just as upon the veins; and if, on one side it disposes the veins to become varicose, on the other, it disposes the artery to become aneurismatic. It is thus that I explain the frequency of popliteal aneurysms;" p. 51. M. Broca is not the first who has thus explained their frequency, as will be seen by the following passage, which may well be given here, as it also shows the old ideas concerning the etiology of aneurism. It is taken from a translation, published in London, in 1723, of "A Treatise of Chirurgical Operations, according to the Theory and Practice of the most learned and experienced Surgeons in Paris," by Mons. Garengeot. "The true aneurism is commonly occasioned by great agitations, and violent motions in those parts where the muscles exert themselves most. It proceeds also from compressions, occasioned by bony or humoral tumors, as is seen to happen in the intercostal arteries by the *exostoses* of the ribs, in the *clavicula*, the *humerus*, the elbow, and in the artery, which pierces the ligament betwixt the two bones" (of course the popliteal is meant); "'tis plain the blood will rather stop in that place than in the remaining part of the duct; and when this happens, the serosity of that blood stopped must needs separate from it, and pass more easily through the pores of the artery. The membranes of the artery, being imbibed with the serosity, that separates from the blood, grow more pliant, looser, and, consequently, more capable of yielding to the motions of the heart." Garengeot thus explains the mode of action of the compression said to be exerted upon the popliteal artery; and so far he is still in advance of M. Broca, who contents himself with saying that the arterial circulation is interfered with (gênée) by the fibrous ring. The fact is simply this, that the popliteal artery is, of all the branches of the aorta, the one upon which the locomotive apparatus exercises the greatest influence by the almost incessant alternatives of straightening and bending, which it imposes upon it. An alteration of the walls of the artery, which would be without inconvenience in the central portion of the femoral, in the iliac, in the primitive carotid, &c., would expose, to a degree infinitely greater, the popliteal to being torn in one or several places. Pathological changes, which elsewhere would be followed by no serious consequences, would, in the popliteal artery, lead to them.

The etiology of spontaneous aneurism must repose entirely upon the defect of equilibrium between the force of the impulsion of the blood and the resistance of the arterial walls, either that a heart too active is placed at the head of arteries relatively too little resisting, or that a previous alteration has diminished the resistance of the arteries, the heart remaining the same. These alterations in the walls of the arteries have been long noticed, though their effect has often been mistaken. Ambrose Paré, who wrote in 1582, speaking of them says, "And this, by a great foresight of Nature (the handmaiden of the Almighty), constitutes a rampart or stony barrier, lest the hot and boiling blood, full of spirit, should escape and pour out of the coats of the aneurismal or dilated artery." (Observations on Aneurism, selected from the works of the principal writers on that disease, from the earliest periods to the close of the last century. Translated and edited by John E. Erichsen. London. Printed for the Sydenham Society, 1844; p. 97.) At the present day, these alterations are almost universally considered as the cause of aneurism; in fact, we are acquainted with but one author who is not of that opinion. This one is Cruveilhier, who says that he regards the alterations, cretaceous, steatomatous, &c., of the arteries, as a consequence of a disproportion between the force of impulsion of the heart and the arterial resistance; and further still, he maintains that the arterial lesions are very often consecutive to the dilatation. (Loc. cit. vol. ii, p. 800.) With this exception, all other authors agree as far as we have been able to examine them. Miller says, that "for the formation of true aneurism the existence of the steatomatous degeneration of the coats is essential." Erichsen says that aneurism is invariably dependent upon the coats of the artery having been softened, atrophied, and disintegrated by fatty degeneration, and consequently yielding to the concentric pressure of the contained blood. "In the very numerous specimens of dilated arteries that I have examined I have never found one that had not undergone fatty degeneration or atheromatous deposition," is his assertion. (System of Surgery, Brinton's edition, p. 463.) Gross (Elements of Pathological Anatomy, Philadelphia, 1845, p. 237) says that "most of the species of aneurism here enumerated (all the species that are properly classed as aneurisms, for he should have omitted aneurismal varix and nævi materni, which he calls anastomotic aneurisms) are dependent, directly or otherwise, upon an altered or modified state of the arterial tunics." Hasse (An Anatomical Description of the Diseases of the Organs of Circulation and Respiration; printed for the Sydenham Society, 1846, p. 85) says, that in every instance that has come under his notice, the arterial membranes were covered with semi-cartilaginous patches and false membranes, rendered uneven, softened, or partially exulcerated by atheromatous deposits, and extensively ossified. Wedl (edition of the Sydenham Society, p. 229) says, that the elasticity and contractility of the vessels are affected by the fat which accumulates in the walls, as a consequence of the insufficient supply of nutriment—"an expansion takes place at the points more copiously infiltrated with fat, from which, owing to its diminished contractility, the vessel is unable to regain its primitive calibre." Mr. Gulliver (Medico-Chirurgical Transactions, for 1843, p. 90) says that a fatty degeneration of the tunics of the arteries is generally connected with that state of them which is the most frequent cause of aneurism. It being the almost unanimous opinion of medical writers of the present day, that what is called fatty degeneration of their walls is the cause of aneurism, we were not at all prepared to find M. Broca differing from them; and we wonder at it the more, that he gives no reason for so doing. He says (p. 51): "When the repartition of aneurisms in the different arteries of the body is studied, when their great frequency in those near the heart, and when the influence exerted in their production by efforts and fatiguing labor is taken into consideration, no one can refuse to admit that there is something mechanical in the determining cause of aneurism; but this cause would be generally insufficient if it were not favored in its action by a previous alteration of the walls of the arteries, which constitutes the predisposition to aneurisms." This is very well, but when he declares that this previous alteration "is often not appreciable to the sight, and only reveals itself by its effects," that in true aneurisms "generally no deposit is found, no appreciable change of structure in the arterial walls, which are only thinned and weakened," we must feel some astonishment. After some remarks on the usual subjects of climate, alcoholic drinks, syphilis and mercury, M. Broca adds, "Let us say, then, that by the side of the mechanical causes, which determine the formation of spontaneous aneurisms, there are often other predisposing dynamic causes, which act in altering the structure, or in diminishing the resistance of the arterial walls; but let us add, that we are ignorant of the nature of these injurious predispositions."

We are astonished at this chapter on etiology. It being a most important point, we expected at least to find therein what was known, if nothing new. That fatty degeneration, or fatty *substitution*, to use a more correct term, is the great predisposing cause of aneurism, we see no reason to doubt. In every case of fatty substitution the nutrition is modified, its force is diminished, it is rendered more slow. When old age, misery, sickness, or anything comes to interfere with the proper nutrition of the body, fatty substitution is observed; first in all the non-vascular tissues, whose nutrition is manifestly more slow, more easily troubled than that of the vascular. For this reason the elastic tunic of the arteries is one of the first tissues of the body to be affected with fatty granulations. It is thus we should explain the influence of syphilis, of alcoholic drinks, of mercury, of age, and of country. No nation is so much afflicted with aneurism as the Irish, and in none, thanks we believe to the government of England, is there more poverty, more misery, and consequently more drunkenness, nowhere more causes of fatty degeneration of the arterial coats.

In Chapter III, on the signs, march, and termination of aneurisms, we find nothing to remark, at least in that portion concerning arterial aneurisms. Their signs result from their connection with the circulation; they tend always to increase, and abandoned to themselves they terminate fatally, generally by rupture; at the expiration of a time, that varies from a few weeks to many years, some peculiar conditions can bring about their spontaneous cure: these are very rare and will be studied elsewhere.

The portion concerning arterio-venous aneurisms is very clearly written. M. Broca shows how utterly inconsistent with physiology is the hypothesis of Breschet, that the current is alternately from the artery into the vein, and from the vein into the artery. The current is always from the artery into the vein, and hence in this aneurism the bruit-de-souffle, though louder at the arterial diastole, is continuous. This sound is produced at the edges of the orifice in the artery, made to vibrate by the continual, rapid, and abnormal passage of blood. The increase in the length of the limb on the affected side, and the hypertrophy of the pilous system, remarked by M. Broca, are worthy of the most serious attention in a physiological point of view. This aneurism generally remains quiet, above all when in the neck, or in the upper extremities: "Aneurysms increase because the pressure of the blood they receive is superior to the resistance of their walls. Now, in arterio-venous aneurisms, a part of the column of the blood finds an easy issue in the adjacent vein. Consequently, the pressure and the tendency to increase are less than in ordinary aneurisms;" p. 81. But on the other hand they have not so much tendency to get well spontaneously, for fibrous deposits do not take place in them. It results from what precedes, that arterio-venous aneurisms, left to themselves, are much less serious than arterial aneurisms, but it is much more difficult to obtain their obliteration. Experience has shown, in fact, that they are much more rebellious than others, and that they brave the action of the greater part of therapeutical methods.

In Chapter IV, M. Broca considers the diagnosis of aneurism, limiting himself to external aneurisms, or rather to those that form a tumor appreciable to the touch or the sight. This diagnosis is composed of two elements, to distinguish aneurisms from other tumors, and to distinguish different kinds of aneurism from one another.

This diagnosis sometimes offers difficulties, for certain tumors can offer characters similar to those of aneurism, and again, certain aneurisms can be deprived of some of those characters, which serve generally to distinguish them.

When an aneurism is modified by the presence of fibrous clots, so as to resemble very much a solid tumor placed before an arterial trunk, the surgeon, when doubtful, is recommended to exert indirect compression in a permanent manner on the trunk of the artery, above the tumor. "If the tumor be solid, no effect will be produced, but if an aneurysm, on the contrary, at the end of a few days, the sac manifestly becomes smaller, and it is found that in seeking the diagnosis, the treatment has been commenced. In fact, those aneurysms least reducible, whose diagnosis is most difficult, are precisely those that yield most easily and most promptly to indirect compression;" p. 90.

As to abscess, he declares that an abscess need never be taken for an aneurism; that it is always easy to distinguish them. We know of an instance in which a lady in Bordeaux was treated for aneurism, situated in the thorax, and making its way through the anterior wall. Pressure was long applied, in order to support the walls of the sac, and to delay as long as possible, the fatal termination; the lady suffered greatly, when at last the envelopes gave way, and an abscess discharged its contents, to her great relief. In the Medico-Chirurgical Transactions, for 1850, is reported a case "of scrofulous abscess of the anterior mediastinum, communicating with both sides of the chest, the pericardium, and trachea, forming a tumor above the clavicle, and simulating aneurism of the innominate artery, or arch of the aorta." The physician, Dr. Maclachlen, was not deceived, but the case above mentioned shows that the mistake has occurred. The contrary mistake is much more easily committed, and many celebrated surgeons have been so unfortunate as to take an aneurism for an abscess.

A source of error in the diagnosis of aneurisms is pointed out by Verneuil in "a note to aid in the history of aneurisms," printed in the Archives Générales, for May, 1850. It is upon the subject of the momentary suspension of the pulsations in aneurismal tumors. Without being able to account satisfactorily for the phenomenon, he shows that there are certain aneurisms whose pulsations appear and disappear at short intervals. He believes that this is the source of the errors of diagnosis made by celebrated surgeons. He attributes it to "a spasm of the artery, a vital action of the arterial walls in a point more or less distant from the explored part." We may notice, while on this point, that it is to this vital action of the arterial walls that Hodgson attributes the action of indirect compression in the cure of aneurism. At a discussion at the Royal Medical and Chirurgical Society, in London (in 1853), relative to the treatment of aneurism by pressure, the President (Mr. Hodgson) said, "that he believed that pressure, the moderate pressure, now used in the treatment of aneurism, acted by bringing into play the vital contractility residing in the inner portion of the middle or elastic coat of the artery. The vital contractility is brought into action whenever the artery is subject to any irritation." There is, therefore, very high authority in favor of the truth of Verneuil's proposition, that a vital action in the artery can produce the cessation of the pulsation in the aneurism to which it leads.

As a general rule, so far as the treatment is concerned, it is enough, in diagnosticating the seat of the aneurism, to determine what artery holds in dependence the pulsations of the tumor. "When, for instance, pressure on the femoral vessel arrests the pulsation of an aneurism in the popliteal region, there is no necessity for knowing more, in order to give a proper direction to the treatment." "In one case, precision of anatomical diagnosis is of the highest importance, in aneurisms that project at the side of the trachea, immediately above the clavicle. These aneurisms can belong to the aorta, to the brachio-cephalic trunk, to the carotid, or to the subclavian. In the first case, the use of refrigerants and the method of Valsalva can be tried; perhaps even it may be permitted to think of galvano-puncture or of coagulating injections, but no bloody operations can be had recourse to; in the second case, the method of Brasdor, modified by Wardrop, is rigorously indicated; finally, in the last two cases, the carotid could be tied, or the subclavian between the tumor and the capillaries;" (p. 97.) It is seen, how indispensable here is precision of diagnosis, and nevertheless, it is often impossible, because the surgeon is deprived of the principal means of diagnosis,—momentary pressure upon the artery between the tumor and the heart.

The question is still more complex, when the aneurism is arterio-venous; for the tumor is at once in connection with both artery and vein, and we must know not only the artery but also the vein, which is the anatomical seat of the *phlebarteria*. This is doubly important; for the only operation that is admissible in these cases is the ligature of the artery immediately above and immediately below the orifice of the communication. This is, generally, easily found, for there the souffle and thrill are at their maximum, and, moreover, there is often a cicatrix.

Before undertaking the study of the therapeutical methods, before describing how aneurisms can be acted upon, and by what mechanisms their cure can be obtained, M. Broca "believes it to be indispensable to describe, with precision, the phenomena, whose *ensemble* constitutes the pathological physiology of aneurisms, and which sometimes lead to the spontaneous cure of this affection. The indications of treatment, in fact, repose directly upon the knowledge of these phenomena, whose study has been too much neglected until now;" (page 103.)

The two following chapters, the fifth and sixth, the last of the first part of the work, are devoted to these subjects. As the movement of the blood in varicose aneurisms has been described in Chapter III, very little is said of them here; but he promises, "to insist with detail on the physiology of arterial aneurisms,—a study scarcely opened."

On account of the effect of the form of the sac, and the nature of its connections with the artery, upon the circulation of the blood traversing it, M. Broca, as said before, classifies aneurisms as crateriform, sacciform, fusiform, and diffused. Crateriform being but the first degree of the sacciform, the phenomena are like those produced in the latter, only less pronounced; and mentioning them as a distinct species is of no advantage whatever. In the sacciform and fusiform, though the circulation, owing to the position of the sac, is of a different character, yet, in both, it is such as to favor the deposition of what M. Broca calls *active clots*. In the diffused aneurism, the circulation is such as to favor the deposit of what he calls *passive clots*.

In the fifth chapter, sacciform aneurisms, or those communicating with the artery by only one opening, are first considered. Two forces preside over the circulation in the arteries; one, coming from the heart, produces their diastole; the other, due to their elasticity and the *active contraction* of their muscular tunic, produces their systole. The velocity of the circulation is therefore not uniform; at each beat of the heart it is suddenly accelerated. The viscosity of the liquid, and the friction of its molecules against the internal membrane of the vessels, render the movement of the portion nearest the walls slower than the rest, so that the velocity is not only not uniform, but it is not the same for all the molecules. When an opening is made into an artery, the blood flows from it in a continuous and jerking stream; when the opening leads into an aneurismal sac, the blood, unable to escape externally, presents an incessant flux and reflux. The membranous wall of the aneurism possesses a certain elasticity, permitting it to be distended, and to return to its primitive volume when the interior tension is diminished; this retraction is entirely passive; the sac, purely fibrous, or cellulo-fibrous, does not contain any tunic comparable to that which gives to the arteries their power of vital contractility. It results from this, that the renewal of blood, at each pulsation, is very complete at the orifice of the sac, but very feeble in the layers of blood nearest to the internal surface of the aneurismal walls. The blood, in contact with the walls of the sac, is not only more disposed to coagulation from being more stagnant, but also from another cause, namely, the abnormal condition of these walls themselves. The normal contact of the internal membrane of the vessels is necessary for the maintenance of the fluidity of the blood; every other contact exercises an opposite action. In the sacciform aneurism, the lining membrane always constitutes an abnormal contact for the blood; the most immovable layers of this fluid, consequently those that have the greatest tendency to the deposition of clots, are those that must undergo this contact. If the stagnation of the blood were complete, or nearly so, these clots would be *passive;* but as it is not, they are *fibrinous* or *active.* This clot, thus formed, pushed against the wall of the sac by the force of the blood, by degrees being deprived of the serum with which it is imbibed, becomes gradually thinner and condensed. These clots are found formed of layers, because they only form when the sac is of a certain size, and when one layer diminishes it, there is again a cessation, until the sac has enlarged again sufficiently for the circulation to be again sufficiently diminished in velocity for the deposit of clots; (p. 123.) The vascularity of these active clots has been wrongfully denied; and even if not vascular, this is no objection to their vitality; for the hair, the teeth, the cornea, the crystalline lens and the articular cartilages, whose vitality cannot be doubted, are deprived of bloodvessels. "Thus, whatever be the opinion formed of the properties of active clots and of their vitality, it must at least be recognized; and this is an important point in the history of aneurisms, that they do not act as foreign bodies; that they are able to resist chemical and physical actions, which the passive obey; and that, if they did participate in the common life, they would not act differently;" (p. 133.) On account of the resistance, added by the fibrinous layer to that of the sac itself, and of the pressure of the interior liquid having less hold of the internal surface of the sac, from its reduced dimensions, the march of the aneurism is impeded. Thus, these active clots impede the progress of the disease; they always retard it; they can even render it stationary; finally, they can cause it to retrograde, and they can even cure it. As a general rule, however, art must step in; it can do so in many ways; but, as is foreseen, the most advantageous methods are those that favor the formation of these useful fibrinous deposits. It is from misunderstanding the importance of these clots, that most surgeons have a very inexact idea of the indications to be fulfilled in the treatment of aneurism. When a collateral vessel arises from the aneurismal sac, the stagnation of the blood takes place to a less degree than in other aneurisms; but that is its only effect.

Fusiform aneurisms can, to a certain extent, be said to resemble the sacciform, surmounted by a collateral artery. The axis of the aneurism is occupied by the new blood, almost free from mixture; at the periphery, that is, in the neighborhood of the walls, exists the old blood scarcely modified by some of the new. At the periphery, therefore, the blood, finding itself under conditions favorable to coagulation of the fibrine, allows active clots to be deposited on the walls of the sac; (p. 144.)

As to diffused aneurisms, in the *primitive*, as they are entirely deprived of a sac, and as the cellular tissue around the blood does not possess that regular elasticity of the other aneurisms, it is foreseen that this circumstance must greatly modify the circulation; there is every chance of only passive clots being produced. The *consecutive*, having at one part a sac, are between the sacciform and the primitive diffused aneurisms.

In arterio-venous aneurisms, fibrinous clots are very seldom deposited, owing to the small volume of the sac; for the tendency to fibrinous coagulation, other things being equal, is proportional to the capacity of the sac and the slowness of the current. When the tumor is of considerable volume, active clots form perfectly well.

Sometimes local causes are insufficient to explain certain varieties met with in the facility with which these fibrinous layers are produced, and they must be attributed to constitutional causes. Upon these the attention of observers is called, they being supposed to be owing to the proportion of fibrine in the blood. "Some facts that I have had occasion to collect, lead me to believe that the coagulation of the fibrine takes place with the greatest facility in individuals whose constitution presents the characters assigned to the temperament called sanguine;" but he hastens to recognize that these facts are too few to give any great value to the impression he has preserved of them. "The future will perhaps solve this difficult problem; perhaps even the means will be found of modifying the constitution of patients, and of carrying, by an internal treatment, the fibrinous plasticity of their blood to the degree necessary for bringing about the obliteration of the sac, without surgical intervention; this would be the beau ideal of the treatment of aneurisms; but this dream does not seem near being realized;" (p. 151.)

This is the substance of the 48 pages comprised in the chapter on the Pathological Physiology of Aneurisms, the most important chapter in the work, insomuch as it is at the foundation of the judgment he passes upon all the methods of treatment discussed in the second part of the book, and also of the remaining chapter of the first, on the spontaneous cure of aneurism. There is nothing so important in the history of aneurism, as the study of the nature and source of the fibrinous layers found in aneurismal sacs, and also of the constitutional condition that favors their formation. The hypothesis that the sanguine temperament is favorable to fibrinous deposits, is the only new thing in the whole chapter, if it be new; in every medical work we find the nature and source of the fibrinous layers indicated. Gross says (loc. cit. p. 237): "In the sacculated variety of the disease, as well as in some of the rest, one of the earliest effects consequent on the development of the tumor, is the deposition of the fibrine of the blood, as this fluid sweeps over its inner surface." Wedl (Pathological Anat., published by the Sydenham Society, London, 1855, p. 229) says: "Now the stream of blood must be delayed in the dilated portions of the vessel, or may be even partially arrested in some of the hollows, or perhaps entirely stopped, when a coagulum is formed, by which the canal of the vessel is obliterated, and which undergoes several morphological changes." The same observer examined an old coagulum contained in a very large aneurismal sac of the aorta, and found it to consist "of several fibrinous layers." Hasse (loc. cit. p. 90) says: "These fibrinous formations, so highly important as regards the pathology and treatment of aneurism, are, in all probability, deposited directly from the more or less stagnant blood within the sac; similar fibrinous layers surround the extravasation in diffuse spurious aneurism. Kreysig may possibly be correct in supposing a concurrent inflammatory condition of the membranes to co-operate in their development; but Schœnlein's idea of their being the essential constituent of aneurism, and of a fungoid carcinomatous nature, is wholly untenable." Hughes, in his observations on the fibrinous formations in the heart (Medical and Surgical Monographs, Philadelphia, 1840) says: "That coagulation of the blood may occur in the vessels in the living body, is a fact clearly proved by the results of disease, and by experiments in the lower animals. That this coagulation generally depends upon one of two causes, viz., inflammation or other disease of the vessels themselves, or considerable retardation of the motion of the blood, will, I presume, be generally admitted; the coagula found in aneurismal sacs may perhaps be dependent upon both causes combined. But perfect rest is not necessary to the coagulation of the blood, either in the vessels or when removed from the body, for it is, I conceive, impossible to suppose that perfect rest can exist in the fluid contents of an aneurismal sac, when coagulation first occurs, or when each successive fibrinous layer is deposited. Comparative rest, or a considerable retardation of the onward current of the blood, is sufficient to induce coagulation, and upon this circumstance the operation for aneurism, particularly when performed on the distal side, is dependent for success." We will add also, the following extracts from Cruveilhier, the work before cited: "The clots appear destined to protect the walls against the direct shock of the blood, and consequently to prevent their rupture. They have been erroneously considered as aiding by their pressure to accelerate the rupture of aneurismal sacs, for the blood-clots are not susceptible of spontaneous alteration;" (p. 775.) "If blood-clots could organize themselves anywhere, it would be in aneurismal sacs, for nowhere can the coagulated blood find itself in conditions more favorable for organization. Now blood-clots are never organized. These clots are not organized; it is crystallized fibrine. They increase by juxtaposition, and even by intussusception; they are in themselves unalterable." "This adherence of the clots to the sac, and of the layers of the clots to each other, is not vital; it is the consequence of the physical properties of the coagulated blood;" (p. 773.) "It has been supposed that the formation of blood-clots was due to the stasis of the blood in the aneurismal sacs, and it was said, the blood-clots do not form in vessels simply dilated, because the circulation is still free in the parts which are the seat of the dilatation, but they are formed in aneurisms where there is rupture of the coats, on account of the stasis. But the cause presiding over the formation of blood-clots in aneurisms is the same as that presiding over the formation of blood-clots in all the vascular canals, to wit, adhesive inflammation;" (p. 774.) "What prevents this mode of cure (by blood-clots) from being definite, is the ulterior changes that take place in the sac filled with clots, these changes being owing to the impulse of the blood; hence, diminish this, and the cure becomes definite. Art can step in, by diminishing as much as possible the activity of the cardiac circulation by the alimentary regimen. Refrigerants, ice, digitalis, &c., these are the means proper to consolidate the cure;" (p. 802.) These citations are quite sufficiently numerous; all authors of the present day, except one German, Schœnlein, and with his much learning, it is not wonderful that the German should sometimes be made mad, agree as to the effect of these clots, as to their utility as protective against the force of the blood. With regard to the causes favorable to their formation, and also with regard to their nature, it is also seen that there are differences of opinion. With some the retardation of the current in the sac is sufficient to cause the formation of the clots, with others adhesive inflammation of the vessel conduces to this, with others this inflammation is indispensable. With some the clots are merely condensed coagula, with others they are deposited fibrine; with some it is crystallized fibrine, and never can be organized; with M. Broca it is vascularized, in other words, organized. With the exception of the point regarding the vitality of the deposits, about which the Irish author says nothing, M. Broca agrees in every point with Bellingham. (Observations on Aneurism, and its treatment by compression. London, 1847.) Bellingham says (loc. cit. p. 136), "These familiar facts all tend to prove—

"1st. That Nature herself sets up a process by which, under favorable circumstances, the cure of aneurism is effected.

"2d. That the mode in which she effects this, always in internal aneurism, and frequently in external aneurism, is by the deposition of the fibrine from the blood in the sac of the aneurism, until it becomes filled.

"3d. That the fibrine in such cases is deposited in regular concentric laminæ, the oldest or first formed next the sac, those most recently formed nearest the centre.

"4th. That a current of blood through the aneurismal sac is a necessary agent in bringing about this result.

"5th. That every obstruction to the current by which its velocity and amount are diminished, will accelerate the deposition of fibrine in the aneurismal sac."

On this subject, M. Broca says, "M. Bellingham has indicated the true origin of fibrinous clots, above all, he has unveiled the conditions in favor of which they are deposited in aneurisms. He is far from having exhausted all the questions that attach themselves to this interesting study; but he has at least furnished precious *données*, which permit us now to establish on solid foundations the pathological anatomy of aneurismal tumors. I have much profited by the reading of this work, which I cannot too much recommend to the attention of surgeons;" (p. 127.) There is no more incontestable statement in the whole of this large book, than the last, that he has much profited by Bellingham's work. Not only on points connected with the pathology of aneurisms, is he much indebted to it, but also, where it is at first less evident, on the historical points connected with the subject. It is, of course, impossible to prove our assertion in the limits allotted to a review, but we are sure that any one acquainted with the two works, will at once acquiesce in its truth, that there is nothing of any value in the work of M. Broca, which is not taken from that of Bellingham.

Bellingham distinguishes between a coagulum of the blood and a fibrinous deposition, but does not speak of the latter as *organized*. M. Broca, giving exactly the same mode of formation, maintains that they are. No one, at the present time, has any right to maintain such a proposition; when he says that they are organized, and, at the same time, that they are formed by successive deposits from the circulating fluid, he maintains what, in his language, is called a *bêtise*.

The subject of the origin of these layers, formed in aneurismal sacs, is a very unsettled one. Only one thing about them is positively determined, namely, that for furthering their formation, the current of blood traversing the sac should be diminished. That they adhere closely to the sac, and to each other, and that they do not act as foreign bodies, shows, to our mind, that they are organized; and that they are organized shows that they are not formed as Bellingham, and M. Broca after him, supposes. They make a distinction between a coagulum and the layers of fibrine, but their explanation that the blood first coagulates and then forms a deposit of fibrine, which adheres to the walls of the sac, is not only inconsistent with our ideas of pathology, but we believe that it fails to account for many of the facts observed in the progress and cure of aneurisms.

As must be noticed in the citations given from authors, speaking of these fibrinous layers, or active blood-clots, or deposits of fibrine, whatever they may chance to be named, an inflammation is supposed by some to coincide, some say most probably, others say necessarily, with their formation. This M. Broca, fortunately consistent with himself, is unable to believe. His anatomy shows him no vascularity in the middle and internal tunics of the artery, and, therefore, they cannot inflame. He sees examples of their inflammation everywhere, he sees organized deposits in aneurismal sacs, whose walls are formed of the arterial tunics yet unbroken, but his anatomy declaring it to be impossible, it does not exist. Just as the Italian philosophers, who saw what Galileo showed to them, but declared it was not so, because Aristotle had said that it was impossible.

We believe ourselves that this striated substance contained in the sac is an effusion of lymph, poured out by the sac itself. We believe this because such a doctrine is in accordance with the nature and properties of the substance itself; it is in accordance with the process adopted by nature in other parts, or in similar parts under other circumstances. It offers, moreover, a ready solution of the changes observed during the course of the disease, and leads to a due appreciation of the various remedies and means proposed for cure.

This was the doctrine professed by Colles, and it may be found in an article on aneurismal sacs by his son, published in the Dublin Quarterly for 1856. He says, on the subject of these fibrinous layers: "This theory that the circulating fluid is the cause of the increase of the disease, by the impulse, and at the same time of its cure by a deposit of fibrine as it passes, leads to uncertainty and vacillation in treatment; at one time the object being, by bleeding and starvation, to diminish the quantity of blood, and at another, by nutritious diet, to increase the fibrinous element." "On the contrary, if we consider that these layers of lymph are formed by the sac, it would smooth away most difficulties; it would be analogous to what we observe to occur in other parts, whether in solutions of continuity, in extravasations of blood, or in the closing of divided arteries. We can now understand the origin and progress of the disease; we have the blood of the circulation driven at each pulsation by the force of the heart and the action of the arteries, and tending to cause further dilatation of the sac; and to oppose this, we have the sac thickening and strengthening itself by the effusion of lymph, layer after layer; but still we find the sac compelled gradually to give way, and increase in size, because, we know, it requires all the healthy powers of the inner dense, firm coats of the vessel to resist this force, which we can hardly expect to meet in newly-formed layers of lymph, no matter how thick." "In treatment we should have two objects in view, to oppose, to lessen, or entirely stop the current of blood which distends the sac at each pulsation; and at the same time to support the sac in its efforts to oppose this. The pressure should be moderate, for the object is only to give support."

We believe, therefore, the opinions of M. Broca on the origin of these deposits to be erroneous; and when he goes any further than Bellingham, and pronounces upon their nature, though he is right in believing them organized, yet that in so doing he is inconsistent with himself. In respect to the constitutional predisposition favoring their production, although he may have more pleasing dreams, he is not a whit in advance of Hodgson, who, in his celebrated Treatise on the Diseases of Arteries and Veins, says: "It is probable that some particular articles of diet may contribute more than others to promote the formation of coagulum; but on this subject experience has not hitherto furnished any decisive indications." (Edition printed in London, 1815, p. 162.) The opinions concerning the tendency to the formation of fibrine and the causes influencing its proportionate quantity in the blood are so varying and conflicting, that it is best to work seriously to throwing light upon the subject, and dreaming is scarcely to be permitted. M. Broca scarcely notices the question, but it is one to which, on account of its predominant importance, too much attention cannot be turned. The following opinion is the one upon which we would base our treatment of aneurism, were we convinced that fibrinous layers were deposited from the circulating fluid in aneurismal sacs: "An augmented proportion of fibrine in the blood can be taken as an indication only of increased labor and waste in certain elements of the body, not of an increased development in the resources and nutrition of the blood." (General Pathology, by John Simon; American edition; Philadelphia, 1852; p. 43.)

The sixth chapter, comprising 54 pages, is devoted to the spontaneous cure of aneurism.

It was long known that aneurisms may get well spontaneously; but Hodgson, as M. Broca says, was the first to assemble the scattered documents, and to make them the object of a dogmatic study. Aneurism is an incurable disease at any period, in this sense, that the arteries have undergone a morbid dilatation with or without destruction of the arterial tunics, and can never retake their primitive condition. But the walls of the arteries may be so strengthened by the deposit of the fibrinous layers above spoken of, that they are able to resist the distending impulse of the blood, or again, in consequence of a violent inflammation of the sac and the neighboring parts, terminating in suppuration and gangrene, the obliteration of the sac may be effected. (See Cruveilhier, loc. cit. p. 796.) Hodgson records three modes of spontaneous cure. 1st. By the gangrene of the tumor. 2d. By the pressure the sac exercises on the artery, causing the walls to adhere. 3d. By the gradual deposit of fibrine until the sac is obliterated, with or without obliteration of the adjacent artery. The second mode is, according to Cruveilhier, rather rational than demonstrated by experience. If it does occur, it is, as the authors of the Compendium say (Vol. II, p. 98), rather by diminishing the force of the circulation, and thus favoring the formation of fibrinous deposits, either from the circulating blood, as most authors believe, or from the sac, as we believe ourselves. There is an observation on this pressure exercised by the sac, made by M. Broca (p. 159), which is very just, namely, "that if the sac does compress the artery, it must be excited to do so by a force coming from the artery, which force is diminished at once by this compression." In other words, a cause produces an effect, which effect diminishes the cause producing it, as it is produced. Such causes are never very efficacious. Crisp (loc. cit. p. 178) says: The spontaneous cure may be effected: first, by the pressure of the sac upon the artery; secondly, by inflammation and deposits of lymph on the cardiac side of the vessel; thirdly, by the distension of the sac with coagulated blood; and fourthly, by sloughing of the sac and profuse hemorrhage, so as to produce syncope and coagulation of blood in the artery. Gross (loc. cit. p. 238) gives five modes: 1st. The most common process is the formation of fibrinous concretions, by which the whole interior of the sac, with the exception of a small narrow channel, is gradually filled up; the affected artery itself remaining pervious, and carrying on the circulation. 2d. By inflammation, accompanied by the coagulation of the blood in the sac and in the artery, and followed by profuse suppuration. 3d. By the development of tumors in the course of the artery, their pressure and their leading to the coagulation of the contents; the tumor itself may overlap and block up the artery. 4th. By gangrene and sloughing. 5th. By a clot of blood becoming detached and blocking up the opening of communication between the artery and the sac. Nélaton (loc. cit. p. 451) gives six modes of cure, but they are effectively the same as the five of Gross; the second and third being the same as the first of the latter author, modified by the form of the sac, and its situation with regard to the artery. The mode of cure by obliteration of the vessel on the cardiac side by inflammation, M. Broca insists to be erroneous, at very great length. He has some sturdy adversaries: Hodgson, Astley Cooper, and Crisp, being among the number. He insists at such length for two reasons: first, that it is false; second, that it has exerted a deplorable influence upon the treatment of aneurisms. The reason, the sole one, he can give for its falsity is, that it is in opposition with what we know nowadays of the pathology of arteries. Here M. Broca is wrong. It may be in opposition to a peculiar pathology founded upon peculiar anatomical views, but it is not in opposition with the true pathology of arteries. The two inner coats of the arteries not having vessels, they cannot inflame, he would say; but we have referred to this error before. "In acute idiopathic arteritis, the plastic matter that is forced out by the inflamed patch in the artery appears to be deposited in four different ways. 1st. It may be deposited upon, and become adherent to the lining membrane of that portion of the vessel which is inflamed. In such cases as these the artery will be found to be plugged up, more or less completely, by firm, tough, leathery, buff-colored fibrine, which is so closely adherent to its lining membrane, as to be stripped off with difficulty from it." (Transactions of the Pathological Society, London, 1856, p. 173.) This is taken from a report made by Erichsen, and to doubt the evidence of the senses from preconceived ideas on a point of this kind is not at all permissible. The second reason is a true one: it has exercised a deplorable influence on the treatment of aneurisms, to suppose that inflammation of the artery produced its obliteration, but it was only because it was supposed that the obliteration of the artery on the cardiac side was necessary for the cure of the sac. Here is where the error lay, and not in the belief that an arterial vessel could be made to inflame, and that its inflammation could produce its obliteration. "Because it was believed that the method of indirect compression acted by obliterating the artery in the point where the pad was applied, it was concluded that it must act with great force in order to rub the arterial walls, so as to put them in intimate contact, in order to make them inflame and adhere together. Therefore, violent machines were employed, serious accidents were excited, and this precious method was so compromised that it disappeared from practice for nearly twenty years, and it still struggles against the recollection of its former failures;" (p. 158.) This is true, but for that it is not erroneous to believe that an artery may inflame; a truth may be very falsely applied, but for that it is not false itself.

Of all the different modes of cure, given by authors, some are then rejected by M. Broca, and the rest are reduced to two, which he studies in succession. They are: 1st. Inflammation; 2d. Fibrinous coagulation.

"Inflammation is more often injurious than beneficial; it gives rise, however, to some *accidental spontaneous cures.* Fibrinous coagulation is the result of a natural process, always salutary, and always durable. It is to it that are due *natural spontaneous cures;*" (p. 161.)

The spontaneous obliteration of the aneurismal arteries of the limbs has been several times observed, in consequence of violent inflammation that had attacked the aneurismal sac, and the surrounding parts, and that had terminated by suppuration or by gangrene. Most generally the patient dies, worn out, before the completion of this process; sometimes even he dies of hemorrhage, when the superior and inferior ends of the artery have not been obliterated, when the inflammation caused gangrene and suppuration of the sac. Erichsen says: "In some extremely rare cases it has happened that the inflammation thus set up occludes that portion of the artery that communicates with the aneurismal sac, and that thus a spontaneous cure results by its obstruction, and by the adhesive inflammation of the vessel;" (p. 471.) Bellingham speaks of the inflammation caused by the pressure of more or less coagulated blood in the sac, and of the rarity with which this inflammation terminates favorably as the great danger of the presence of a coagulum in the sac. (Loc. cit. p. 144, &c.)

This is the substance of what M. Broca has written on the subject: The spontaneous cure by inflammation can arise in two very different conditions; as the sac is still permeable to the blood, or is already entirely obliterated by passive clots. In the latter case, inflammation is the consequence and not the cause of the obliteration; it only impedes a cure, which without it would be almost certain. The conditions under which it is manifested, and the influence it exercises on the tumor, are indicated further on; here, M. Broca does not occupy himself with them, for he is only to speak of inflammation arising in a sac, when the blood still traverses it, when pulsations are still felt therein, and when reinforced or not by some fibrinous clots, it communicates freely with the artery. The causes of this inflammation may be a contusion, a violent effort, that too rapidly distended the sac, &c. It is not impossible for the inflammation to commence directly on the membrane of the sac; but, most generally, it is developed in the neighboring tissues, and then propagates itself to the aneurism. In the examination of the effects of this pathological process, the symptoms common to most inflammations, such as pain, heat, redness, swelling, &c., are very properly omitted; the special phenomena, which result from the presence of the aneurism, are alone considered. The tumor becomes hardened, and the pulsations diminished, owing, as examination shows, to the formation of a mass of clots, which fills more or less completely the cavity of the sac. The mechanism of the formation of these clots it is not easy to discover; it is perfectly true, that the contact of the inflamed membrane favors the coagulation of the blood; but the determination of the fact does not give its explanation. The nature of these inflammatory clots is of much more importance; and when they are examined after the incision of the sac, or after it has spontaneously opened, they are found to be soft and friable, that is, *passive.* This being determined, three cases can present themselves: the consequences of the inflammation vary according as it terminates by resolution, as it ends in suppuration, or as it is complicated with gangrene. In these three cases also, the termination can be less favorable, either that the aneurism persists, or that the patient succumbs.

As suppuration and gangrene are more common than resolution, they are first studied. The suppuration may be in the sac, or in the cellular tissue around it; generally it is in both points at once. The sac at last opens, and the patient dies more or less promptly from the hemorrhage. M. Broca says: "It is seen how much this termination by suppuration is to be dreaded, which scarcely compensates by a few chances of definite cure, the chances far more numerous of death more or less prompt." The few chances of definite cure are not given; they can only be those of the adhesive inflammation of the walls of the artery, and that for him is impossible. The inflammation can terminate in, or rather be *complicated* with gangrene; for mortification is rarely due simply to excess of inflammation. This is the way it generally occurs: the tumor, in growing larger, presses the inflamed skin; and parts inflamed, when pressed upon, readily mortify; the gangrene comprehends the skin and the walls of the sac, which have become adherent; when the sac is detached, the contents of the aneurism freely escape. Gangrene is not then a mode of cure, it is an accident that depends upon the inflammation. Gangrene prevents the cure of many aneurisms, that inflammation, without its occurrence, would cure, and never adds the least favorable chance to those already existing. The idea of curing aneurism by gangrene, is due to an erroneous interpretation of the fact, that in gangrened limbs, the arteries are found obliterated; it is the cause of the gangrene, not the effect; (p. 169.) The hypothesis of Crisp, that the sac, in detaching itself, gives rise to a loss of blood followed by syncope, which lasts so long that the blood in the artery is coagulated, and the patient cured, is answered by M. Broca, by the question if a simple incision into the sac would cure the patient? Whenever the surgeon has involuntarily made the experiment, the patient has died, with or without syncope; (p. 170.) Independently of the local gangrene taking place about the aneurism itself, in consequence of the inflammation, there is another kind, the sphacelation of the limb below it, from the passive coagulation provoked by the inflammation, and not limited to the sac. All cures of aneurism may be followed by this, but the cure by passive clots is most liable to it, because those clots form so rapidly, that the collaterals have not time to dilate, to gradually become developed. And, finally, the inflammation can terminate by *resolution.* The symptoms of aneurism disappear—in the most fortunate cases, the tumor has completely ceased to pulsate—but the patient is not safe, on account of the nature of the coagulation, which is constituted by passive clots. The different consequences of the obliteration by passive clots must be studied; (p. 172.)

Whenever the obliteration of an aneurism is due to passive clots, a relapse must be feared; and also the consecutive inflammation and rupture of the sac. As they are not organizable, the current of the blood can break them up and wash them away. Generally, however, aneurisms obliterated by inflammation remain permanently impermeable, because the passive clot is soon sustained by fibrinous deposits. This deposit, the fibrinous layer, which is found in these cases when an opportunity is given to examine them, did not exist before the coagulation of the contents of the aneurism, for it was perfectly reducible; it could not have separated from the coagulum, for the fibrine in the blood is but the three-thousandth of the mass; it must, therefore, have come from the sac. Unable to account for it in any other way, M. Broca says, "I think then, that the aneurismal sac, in contact with the decomposed blood it incloses, secreted slowly a mass of plastic lymph;" (p. 175.) He is here forced to conclude, it is indeed impossible to deny such a conclusion under the circumstances, that the sac can, and does sometimes secrete plastic lymph.

After obliteration by passive clots, consecutive inflammation is always to be feared. Its march and rapidity are variable; sometimes it is limited to the walls of the sac, and sometimes it is propagated to the peri-aneurismal tissues. The epoch until which this obliteration exposes to consecutive inflammation, it is impossible to decide; one case is given in which the patient died in consequence twenty-two years afterwards; (p. 178.) It is a mode of cure full of dangers, and chance alone decides the fate of the patient; therefore, M. Broca has given to it the name of *accidental.*

The second method of spontaneous cure in aneurism, that by fibrinous coagulation, is due to a natural process, already studied in the preceding chapter. The fibrinous layers gradually increase in thickness, and the cavity of the sac gradually diminishes until cure results. This sometimes takes place without the patient being aware of it. Sometimes, at the moment of obliteration, the patient experiences a sharp burning pain, lasting for some hours. This pain, which it is difficult to account for, might be explained, according to M. Broca, by the pressure exerted by the tumor recently hardened, upon the nervous threads surrounding it. This pain is attributed by Tuffnell, with more probability, to the dilatation of the artery accompanying the communicans peronei nerve; this being one of the three collaterals which he has noticed in popliteal aneurisms as undergoing most evident enlargement. We have never read of this pain as occurring anywhere but in the lower extremity. "The natural deposit of fibrinous clots is effected by favor of the *incomplete* stagnation of the blood in the peripheric layers; more complete, passive clots are precipitated; less pronounced, there is no coagulation;" (p. 181.) One condition favorable to their formation is then known, and thus the situation of the orifice, the peculiar disposition of the sac, &c., can sometimes explain their presence. "But in the majority of cases, this cure is dependent upon a more general cause, a peculiar plasticity of the blood, the nature of which is entirely unknown;" (p. 182.) The origin, the structure, and physical properties of these clots having already been considered, M. Broca has now only to study the phenomena that follow the fibrinous obliteration of aneurisms. As soon as the tumor has ceased to pulsate, it is found to be very hard; it then becomes rapidly smaller, a few days being sufficient to reduce it to one-half or one-fourth of its former volume. After some time, this diminution in size is effected more slowly; with some patients, a small, hard tumor remains definitely; with others, it is entirely absorbed, only a small flat disc being left; (p. 184.)

This striking phenomenon, the rapid decrease of the sac, M. Broca supposes to be owing to a property inherent in the substance itself of the active clots, and that this property plays an important part in the natural cure of aneurisms. "They have a natural tendency to contract together upon themselves; when thin, this tendency is counterbalanced by the impulse of the blood, but when their thickness has increased at the expense of the cavity which they circumscribe, their retractility, which increases in proportion, ends by becoming superior to the force that is tending to push them back." "When the tumor is entirely obliterated, it is again the retraction of the fibrinous clots that causes it to decrease in size. These clots, in fact, are not composed exclusively of pure fibrine; they inclose a notable quantity of water. In retracting, they dry themselves, so to speak, they expel the water with which they are impregnated; this transudes through the membrane of the sac, and is soon absorbed. The contents of the aneurism thus become more and more condensed;" (p. 185.) When the clots are reduced to their fibrine alone, this retraction and this condensation are sometimes arrested, and the parts remain definitely in this condition; at others, this fibrine itself is gradually absorbed. The whole of M. Broca's views on this subject, as may be judged from what we have said before on the formation of these fibrinous deposits, are in our opinion erroneous; we even feel tempted to use another word, when we read of these clots squeezing the water out of themselves through the walls of an aneurismal sac, when it is to be absorbed. How in the name of common sense could such a phenomenon occur! Admitting that the clots, composed, according to himself, of coagulated fibrine, were saturated with water, if they underwent pressure between the blood and the walls of the sac, is it reasonable to suppose that the water, thus expressed, would pass through the solid walls of the sac, and not into the circulating fluid? M. Broca believes these clots to be organized (p. 131), and yet they are not, according to himself, even formed of pure fibrine deposited from the blood. He does not believe them to be pure fibrine, and yet they have such inherent contractile force as to squeeze out of themselves, through the firm membranes composing an aneurismal sac, such a quantity of water as to diminish the whole mass of the tumor one-half or three-fourths. This is, at least, *bizarre*.

We believe, ourselves, not only that the fibrinous layers by which aneurisms are cured are secreted by the walls of the sac, but we also believe, that the rapid diminution in the size of the tumor is due to the walls of the sac, owing to their vital contractility, which is allowed to act when the force of the circulation is diminished. For this opinion, at least, we have most excellent authority; Erichsen says: "Though I have stated generally that aneurisms are cured by the deposit of laminated fibrine, I think this remark ought to be confined to the common sacculated form of the disease. In the tubular variety (or the fusiform), which is certainly of far less frequent occurrence in the extremities, the cure of the aneurism takes place by contraction of the sac, and by its becoming filled with fibrine in a somewhat irregular manner." (System of Surgery, p. 419.) We notice also that Paget, who, it is to be remarked, does not speak of aneurisms in his Surgical Pathology, is of the opinion, that the effects of continued obstruction of the trunk would be the gradual contraction of the dilated portion, rather than its filling up with clots. (Amer. Jour. of Med. Sci. for Oct. 1851, p. 502.) This contraction is thus explained by Hodgson: "The contraction of the sac and the artery seems dependent upon a law in the vascular system, whereby it appears that when the current of blood is obstructed in its passage, or is conveyed in a diminished stream, the vessel gradually contracts in diameter until it corresponds with the current which passes through it, or its cavity is finally obstructed. Thus the same process of obliteration takes place in the umbilical vessels and the ductus arteriosus soon after birth, as in an artery through which the stream of blood is obstructed by the application of a ligature." (Loc. cit. p. 145.)

The influence exerted on the general circulation of the limb by the fibrinous obliteration of an aneurism, is next spoken of. By this obliteration the artery is sometimes obliterated at the same time as the sac, and sometimes the sac alone is filled. The two dispositions must be studied separately, for one endangers the circulation, while the other restores, as much as is possible, the circulation to the physiological condition. Singular as it seems, the obliteration of the artery is so much the more common, that Scarpa thought it a *sine quâ non*. He says: "It is a certain and incontrovertible fact in practical surgery, that a complete and truly *radical* cure of aneurism cannot be obtained in whatever part of the body this tumor is situated, unless the ulcerated, lacerated, or wounded artery, from which the aneurism is derived, is, by the assistance of nature, or nature combined with art, obliterated and converted into a perfectly solid ligamentous substance for a certain space above and below the place of the ulceration, laceration, or wound." (Treatise on Aneurism, Edinburgh, 1808, p. 188.) This obliteration of the artery, it may also be stated here, is believed by him to be caused by the sides of the vessel adhering by adhesive inflammation. (Loc. cit. p. 196.)

This continuation of the process of fibrinous deposit, is a very difficult point for M. Broca: "For, it seems, as if the coagulation of the fibrine must stop, when the diminution in the velocity of the current, which plays so great a part in the formation of fibrinous deposits, no longer exists;" (page 187.) He overcomes this difficulty, by saying, that "the diminution of the velocity is not the only cause of fibrinous coagulation: the contact of a foreign body is sufficient; the blood, constantly coming in contact with the fibrinous clots, is deposited." If this be true, we see no reason, why the deposition does not go on until all the arterial tubes are obliterated, or until the patient dies. M. Broca said (page 133), that these fibrinous clots do not act as foreign bodies; and here, to support his hypothesis, or rather the hypothesis he has adopted as his own, he bases his reasoning upon such action. It is impossible to discuss all the points in which we differ from M. Broca; but here it seems to us, that the theory of Scarpa is correct, and that the vessel is obliterated by adhesive inflammation.

At the termination of this study of the spontaneous cure of aneurism, M. Broca says: "These notions, which the study of aneurisms furnish us, when abandoned to the resources alone of the organism, are of the greatest importance; they show us, so to speak, with the finger, the object the surgeon should propose to himself in the treatment of aneurisms. He ought to beware of imitating accidental cures; he ought, on the contrary, to have always in view to imitate, or rather to facilitate, the natural cure. All the methods which have for results to provoke the inflammation of the aneurism, or to cause passive clots to be precipitated within it, are by this very thing inferior, in the point and view of pathological anatomy, to those that act simply by favoring the deposit of active clots.

"To obtain active clots! Such is the great idea, that should rule the thoughts of the surgeon in the treatment of aneurism. But, what are the ways that can lead to this end? The mind discovers two.

"Fibrinous coagulation, in fine, depends upon two principal causes: a general cause, the plasticity of the blood; and a local cause, the diminution of the velocity of the circulation. Two indications result from this.

"Of these two indications, the first is, at the present time, and will be for a long time, perhaps, beyond the reach of our means. We do not know how to exercise any influence on these conditions of plasticity whose nature is, moreover, unknown to us.

"But, it depends upon us to fulfil the second indication. We know the mechanical conditions of the circulation, and we have a hold upon them. In the present condition of the science, our efforts ought then to be grouped around this idea: *To diminish the flow of the blood in the diseased artery.* The best therapeutical method will be that which will attain this end with most certainty and least harm.

"Now that we have a compass to direct us in the choice of the methods, we shall be able to study understandingly the numerous means that have been imagined for the cure of aneurisms."

Though we do not agree with M. Broca, as to the origin of the fibrinous clots by which the aneurismal sac is obliterated, yet we agree with him entirely, as to its being the object of the surgeon to cause, or aid, in their production; and, moreover, that, in order to do so, the surgeon must *diminish the flow of the blood in the diseased artery.* As this is, generally, the basis upon which he judges the methods of treatment discussed in the second part of his work, the one whose examination it is now our duty to undertake, it is an easier and more agreeable task for us to enter upon it. W. F. A.

(To be continued.)

ART. IV.—*The Causes and Prevention of Yellow Fever at New Orleans, and other Cities, in America.* By E. H. BARTON, A.M., M.D., Chairman of the Sanitary Committee; late President of the Louisiana State Medical Society; former Professor of the Theory and Practice of Medicine and Clinical Practice in the Medical College of Louisiana, &c., &c. Third edition, with the addition of upwards of seventy pages of "Prefatory Remarks," and a Supplement. New York: T. C. Bailliere, 1857. 8vo.; pp. 282.

IGNORANCE exacts many heavy sacrifices both of person and of property, from her followers. Showing herself under a great variety of masks and ways; sometimes lackadaisical, sometimes smiling, and not seldom forward and self-sufficient, she does not frighten the multitude, like sin and death might be supposed to do, but she is in close alliance with both of them; a sleeping partner, as it were, supplying quietly, and often with a show of kind intentions, the chief materials for the others to work on and compass their ends. Neglect and exaggeration; ridicule of danger at a distance, and the basest fear when it is imminent; niggardly in preparation against coming evils; prodigal to wastefulness when they are actually felt; sneering at wisdom in the garb of science, and favoring every impudent pretender, whose garb is motley, with cap and bells,—Ignorance stands opposed to improvement in any shape. What to her is famine from neglect of agriculture, and pestilence from neglect of the precepts of hygiene! Has she not the precedent of former times and older prejudices on her side! Better, she will exclaim to the deluded multitude, that you should die in all the variety of suffering and woe, as your ancestors have died before you, good, patient, uncomplaining souls as they were, than that you should be led away by these new-fangled teachers, these visionary enthusiasts, who promise you comfort, and health, and peaceful enjoyments, which you know not of. Why go to the trouble and expense of procuring these probable benefits, even if they should prolong your lives and save your children from uncounted ills? Your lives are long enough, and why should you tax yourselves for the sake of your children? They are no better than you, and have no superior claims to escape from the filth, and the mental darkness, and the free fights, and the privilege of killing or the chance of being killed, in which you have luxuriated so long! Why rehearse this nonsense, some of our readers may ask; and yet it is by such nonsense that a community is sometimes carried away, and excuses itself for a neglect of the prevention of disease, and of demoralization and crime. Who often is so unpopular, so little thanked as he is, who sets about refuting this nonsense, and aims at the removal or even amelioration of existing evils, and the improvement of the social condition of his fellow-citizens!

We do not say that Dr. Barton, the author of the work before us, is in this category of the neglected or the illy requited; but we entertain misgivings of his not having received the full measure of reward to which he is so richly entitled, for his long, devoted, and judicious services, in bringing about an amended condition of the public hygiene of New Orleans, and with it protection from the dreadful pestilence, which, at different times, has destroyed so many of her people, and retarded so much her growth and prosperity. It may be, that, in the ardor of his belief of the necessity of reform, he does not always adhere to the most rigid methods of argument, nor express himself in a style simply didactic. He sometimes clothes aphorism in metaphor and throws spangles on science, beyond the expectations of plainer votaries. These little peculiarities, we may even magnify them into defects, do not, however, materially interfere with his array of facts, or the zeal and ability with which he brings them to bear in support of his positions. But, before we take up his line of argument and illustrations, it is proper to state the circumstances to which the present volume owes its appearance. After public attention had been thoroughly aroused to the importance of the subject by the yellow fever scourge of 1853, the Board of Health of New Orleans appointed a Sanitary Commission, consisting of the Mayor of the City, A. D. Crossman, and Drs. E.

H. Barton, A. F. Axson, S. D. McNeil, J. C. Simonds, and J. L. Riddell, whose duties were designated to be:

"1st. To inquire into the origin and mode of transmission or propagation of the late epidemic yellow fever.

"2d. To inquire into the subject of sewerage and common drains, their adaptability to the situation of our city [New Orleans], and their influence on health.

"3d. To inquire into the subject of quarantine, its uses and applications, and its influence in protecting the city from epidemic and contagious maladies; and

"4th. To make a thorough examination into the sanitary condition of the city, into all causes influencing it, in present and previous years, and to suggest the requisite sanitary measures to remove or prevent them, and into the causes of yellow fever in ports and other localities having intercourse with New Orleans."

The results of the inquiries and investigations on these several points were embodied in a volume, which was printed in 1854, under the title of "Report of the Sanitary Commission of New Orleans, on the Epidemic Yellow Fever of 1853: Published by Authority of the City Council of New Orleans." Dr. Axson reported on the first subject of inquiry; Dr. Riddell on the second; Dr. Simonds on the third; and Dr. Barton on the fourth, or on the sanitary condition of New Orleans. The present volume is a third edition of this last report, with the additions specified in the title page. Great stress is laid by the author, on the paramount importance of a thorough study of etiology; for a knowledge of causes can alone suggest the means of prevention. In its large and comprehensive sense, so as to include a connected and philosophic view of the general causes of disease, etiology, to use the language of Dr. Barton, who calls it "the basis of preventive medicine," is hardly taught in this country at all. Now, this is infinitely more important than curative medicine; preventible disease being proportioned to non-preventible disease as 8 or 10 to 1. This view may be farther enforced by a simple statement of the fact, that in 1853, thirty thousand persons, of the population of New Orleans, were attacked by yellow fever, of whom it has been estimated that upwards of eight thousand were carried off by the disease. It is easy, to a certain extent, to fill up some of the details, which must suggest themselves to every one, of the concomitant and attendant circumstances; such are, the pain and suffering, of which the bodily is not always the greatest, of the sick,—the wail of the survivors for the dead—the desolated homes—the widows, the orphans, the childless—ruined fortunes—general gloom and distress—interrupted commerce, and the loss of millions in consequence. Surely, a knowledge of the means of preventing this terrible array of ills the most afflicting to humanity, is worth obtaining; and he who offers it to us in good faith, and after much patient search and striving to discover it, deserves our thanks, although, in the end, the reality may fall somewhat short of the expectation raised.

In the "Prefatory Remarks," the author embraces the opportunity to fortify the positions taken in the Report itself, to extend its illustrations—and to give farther explanations of portions of it which have not been "so fully understood as they might have been." An opinion was expressed in the Report, that the disturbance of the original soil of a country, when the meteorological condition required to give it activity is present, has been one of the most efficient causes of every epidemic which has devastated the Southwestern parts of the United States, at least during more than half a century. To the evidence furnished by New Orleans itself, the author has added that procured from a number of towns and places in the southern region of country—some of which are introduced in this part of the work. New Orleans is represented in the Report (p. 8), "to be one of the dirtiest, and with other conjoint causes, is consequently the sickliest city in the Union, and scarcely anything has been done to remedy it." The junction of terrene and meteorological conditions, "being absolutely indispensable to the origination, transmission, and duration of yellow fever everywhere," and one of these conditions, the terrene, being under human control, and even the other, or the meteorological, susceptible of modification by the same agency, it follows that the disease in question is preventible. The gist of the Report, after a specification of the causes which, separately or combined, or in alternate action, give rise to yellow fever, consists in pointing out the means by which they are to be removed, or their virulence nullified. The medical constitution of each month of the year 1853, up to the date of the appearance of the fever, and next the epidemic constitution, are described. The influence of the latter on vegetable and animal life is also mentioned. A critical analysis of meteorological tables, containing records of temperature, rain, and humidity, justifies, in the opinion of Dr. Barton, the conclusion, that "*in every instance where the facts are known, great heat and high saturation* were the predominant conditions for the prevalence of the disease, and it was often remarked, that *the return of these conditions reproduced the fever two or three times.*"

High temperature of a certain duration, is essential to the production of yellow fever. The average temperature at midday, in the months of May and June preceding the epidemics at New Orleans, has rarely been 81·88° F., and at the same hour during the three epidemic months 83·75° F. The average temperature of the whole day for the three months was 79·51°. It rarely reaches 90° F. during the hottest part of the day. It is not meant to be asserted that the prevalence of the fever is in proportion to the temperature. Other circumstances are necessary, among which Dr. Barton places foremost high saturation, or great humidity. The conjunction of high heat and humidity is declared to be a *sine qua non.* It has been noticed in Brazil and in Demarara, that, whenever the diseases varied or changed, they were usually preceded by some variation in the climatic condition of the place. It was remarked by Dr. Blair, that extreme seasons represented by the above conditions of atmosphere, "not only modify the type of diseases but the effects of treatment; during the depths of the rainy season adynamic and congestive types are prevalent and marked; purgatives now do harm, mercury too easily salivates; thirst is diminished. There is increased action of the kidneys; there are local congestions; headaches, drowsiness, sopor, coma, watery stools." These effects have been noticed by the author, in the climate of New Orleans for many years; (p. 76.) Doctor Barton tells us, "that there is a dew-point peculiar to each of the higher classes of fever (in their aggravated or epidemic grade) is, doubtless, true from what we know of the temperature essential to their existence, and how greatly they are all increased by humidity. The dew-point of yellow fever is from 70° to 80°; the disease rarely exists long when it is under 60°. The plague has probably a dew-point of 10° less. The typhus gravior at from 35° to 45°, and the cholera in this climate varies from 48°, and sometimes much less, to 74°, and is probably less controlled by its fall than yellow fever. The sources of this great excess of humidity are, mainly, the swamps, lagoons, lakes around us, and which are also the principal causes of our fogs, imperfect drainage and want of pavements." Beyond what the author says of the dew-point in the season of the yellow fever, we need not attach importance; the data on other points are too uncertain or conjectural. *Solar Radiation* which implies the difference between the temperature in the sun's rays and in the shade, a difference more felt even than measured by the thermometer, has not, Dr. Barton conceives, heretofore attracted notice. In common phrase, the clear days of the seasons of the disease are called "yellow fever weather." "It is characterized by being very hot in the sun and cool in the shade, at the same time, on one side of the street a boiling temperature, and on the other so cool as to urge to buttoning up the coat. This uncomfortable alternation of chilliness and heat is productive not only of uncomfortable feelings, but when exaggerated, passes into disease—constitutes the first stage of yellow fever." We are told a little farther on, that the difference of temperature here described, "essentially constitutes *with other circumstances*, a sickly season;" p. 86. This physical phenomenon is described in several places, and its direct and collateral relations are descanted on by the author. In reference to the prevalent winds, we are told that during the summer they are from the east, south, southwest and southeast. "During the worst period of the epidemic, the most frequent wind was from the east. Still more remarkable was the frequency and long duration of calms," with all their injurious saturations and depression of the vital principle; p. 93. Fluctuation in the agencies both meteorological and terrene, which give rise to yellow fever, are held to be probable. The supposition, that fever arises from a deficiency of ozone, is adverted to by the author, but no experiments were made in New Orleans to test the question.

The terrene causes are next taken up, and their relatively injurious nature discussed. Under this head the author classes "all foul, filthy, organic matter passing through its decomposition, whether terrene, miasm, malaria, or what not." Some of his critical readers will ask what means this "what not;" while others may perhaps good-naturedly exclaim: Why not a what not, as well as any other hard knot! Upturning of the original soil, of which mention has been already made, is spoken of with some detail. "The first epidemic yellow fever that is recorded here is that simultaneous with excavating the earth, in digging the Canal Carondelet, and more especially its basin, in 1797." Extensive exposures of new earth in making new basins, dredging the canals, deepening the ditches, &c., preceded the epidemic of 1853. In a subsequent section, the author makes instructive albeit not novel observations on the subject of ventilation, and the value of pure air, which is contrasted with the impure air of cities; also on water being spoiled by bad air. He next inquires into miasm as a supposed product of decomposed substances, and a specific agent in the production of fever, and expresses his disbelief in such a doctrine. He thinks that, "*whatever impairs the purity of the air is pro tanto*, for the time being, the *miasm*, or rather the *malaria;*" p. 148. As we are not among the number of those who feel disposed to take up the challenge and do battle on the opposite side, we shall pass on to other matters; reserving ourselves, if need be, for a trial of strength on another occasion.

Dr. Barton affirms "as a universal fact, with the *exceptio probat regulum*, that filth of every kind, with heat and moisture, with sufficient duration, produces yellow fever;" p. 159. With a strong leaning towards the side which he advocates, we do not entertain quite such decided conviction as he does on this point. There is probably an elimination of some subtle agency, which constitutes the poison of yellow fever; but that this is the product of filth exclusively, acted on by all the admitted aerial and gaseous and electrical elements, we are not prepared to say. We believe, however, that this is the true line of etiological investigation, and that it, more than any other, promises to lead to a solution of the yet unsolved problem. We are not, therefore, of the number of those who would discourage, still less throw ridicule on the pains-taking inquirers who have noted down every change, every phenomenon presenting itself in the material world, which has been associated with the occurrence of yellow fever. It may be found eventually, that the perfect history of this disease will derive unexpected aid from the details introduced by such writers as Dr. Barton, and in still greater number and method by Dr. La Roche; just as, at the present time, we obtain a more intimate knowledge of the national character and state of society among the people of a country, in times remote from our own, by private journals and records of domestic life and of family expenses, than from all the state documents, and the acts and speeches, and battles, and conquests, which make up the received materials for general history.

Among the contributions made by Dr. Barton to the perfect history are, apropos of the parts of cities in which the yellow fever always breaks out, descriptions of the medical topographies of those in which the disease more frequently takes up its abode; such as Havana and Vera Cruz; and of others in which it has committed great ravages, such as Rio Janeiro. In this connection, he speaks of the causes which deteriorate the air of a city, and contribute to produce a slow poisoning of its inhabitants; and he designates the means of amelioration and cure, to be a better hygiene. Prefixed to the volume before us, is a "Sanitary Map of the City of New Orleans, exhibiting the location of the various nuisances, and other causes affecting the salubrity of the city, as shown in the occurrence of nearly 30,000 cases of yellow fever in the epidemic of 1853, &c., &c.," prepared by the author. In the body of the work are charts; one illustrating the influence of solar and terrestrial radiation and moisture, in the production of yellow fever in New Orleans; the other "exhibiting the annual mortality of New Orleans, per 1000 of its population for each year, together with the causes, influencing or producing it, from 1787 (with a few exceptions) to 1854." These are the work of the author. Intermediate between them, are three Meteorologic Registers of New Orleans, kept by Dr. Barton. At the end of the volume are "A table of deaths in New Orleans during the year 1853, showing for each class of diseases the total mortality, and that of each month; also the sexes and colors, with the ages and places of nativity: compiled for the Sanitary Commissioner, by D. MacGibbon, M.D.; and two meteorological tables (on one sheet) for the year 1853." They alone can fully estimate the value of the map and the charts and tables above mentioned, who should attempt to prepare anything analogous, or who are engaged in an investigation of a subject which requires for its elucidation the aid of similar illustrations. Such documents would alone entitle Dr. Barton to be exempted from any grave criticism for diffuseness in description, and the intercalation of matter not directly necessary to a narrative of the medical topography and climate, as explaining the cause of the yellow fever of New Orleans. If we might offer advice, it would be, that, in a subsequent edition of the present work, or in the preparation of one of an analogous character, on perhaps a more extended scale, he would throw into an appendix the disquisitions and details on public and private hygiene and the collateral sciences, which are now spread over his pages, and which, though valuable in themselves and germain to his theme, overlay and somewhat interfere with his free handling of what more especially belong to and constitute the essential part of his history, and the arguments included in it. At present, the work might well and quite appropriately be called A Treatise on Public Hygiene, with a more especial Application to the Causes and Prevention of Yellow Fever in New Orleans and other Cities in America. It is, we know, a somewhat unusual fault, if fault it be, in an author to give much more in his book than he promises in his title page; and if we advert to an instance of this nature in the case before us, it is that the labors of Dr. Barton may be rendered still more serviceable to his country and creditable to himself. If he were once to engage in the task of separating his present materials, and of reconstructing a new work out of them, he would require no critical friend at his elbow to point out redundancies and repetitions with some slips of logic. These he would see at once, and be the most eager to correct.

We must not conclude without some reference to the remarks of the author on the influence of social habits in the production of yellow fever. His views and experience on one of these habits, that of drinking intoxicating liquors, is stated in the following terms: "During the whole course of the sitting of the Sanitary Committee, as a court of inquiry into the causes of the epidemic, and its great mortality, the inquiry was usually made of those we examined of the influence of social habits (intemperance) upon the liability to the disease, and on its results. The answer was almost uniformly, that it not only *increased the liability to attack, but greatly lessened the chances of recovery.* This is most singularly and impressively illustrated by the record I have received from the 'Sons of Temperance,' showing that of these about five hundred remained in the city during the epidemic, of whom, only *seven* fell victims to it, the proportion being 1 in 71·42 or 1·40 per cent.; the mortality of the balance of the city, of those who remained under similar circumstances, being 1 in 15·43 or 6·48 per cent., or nearly five times as many." The most eloquent commentary on this plain narrative could scarcely add to the force of the example, which it furnishes, of the protecting power of temperance.

On the subject of the mode of transmission or extension of yellow fever, from the spot in which it first breaks out, and from the persons who are first attacked, and of the means of prophylaxis, we cannot now speak; our scant limits only having allowed of a curt notice of the general scope of the work before us. The light in which the author regards these subjects, even if he had not made a more distinct declaration of his sentiments, is readily inferred from his views of the origin of yellow fever. These are of course entirely opposed to a belief in contagion, either direct or contingent, and to restrictions on freedom of person or of commerce, based on such a belief.

ART. V.—*An Exposition of the Signs and Symptoms of Pregnancy; with some other Papers on Subjects connected with Midwifery.* By W. F. MONTGOMERY, M.D., &c. &c., of Dublin. Second edition. 8vo., pp. 706. London, 1856.

THE first edition of Dr. Montgomery's treatise on the Signs of Pregnancy was issued many years since. It at once became the standard work, as it was almost the only one in any language on the subject, which position it has retained till now, not merely in Great Britain and this country, but, by its translations, throughout the continent of Europe.

Such having been the acknowledged value of the early edition, that of the volume just issued, based on a so much more extended experience, may be premised from the author's own words: "The present treatise, although only another edition of a work already published, may be, I think, with truth regarded as almost a new book, every sentence of the former having been carefully revised, and the quantity of new matter now added being more than equal in amount to the whole contents of the former edition."

Thirteen chapters are devoted by Dr. Montgomery to the signs and symptoms of pregnancy, and three others to the normal period of human gestation, the signs of delivery, the spontaneous amputation of fœtal limbs in utero, and some other pathological lesions (of especial interest legally) to which the child is liable before birth.

These several subjects, so interesting in themselves, and so important, every one of them, to the most delicate and precious of social relations, controlling often the honor and domestic peace of a family, the legitimacy of offspring, or the life of its parent, are all treated with an elegance of diction, fulness of illustration, acuteness and justice of reasoning, unparalleled in obstetrics and unsurpassed in medicine. The reader's interest can never flag, so fresh, and vigorous, and classical is our author's style; and one forgets, in the renewed charm of every page, that it, and every line, and every word has been weighed and reweighed through years of preparation; that this is of all others the book of Obstetric Law, on each of its several topics; on all points connected with pregnancy, to be everywhere received as a manual of special jurisprudence, at once announcing fact, affording argument, establishing precedent, and governing alike the juryman, advocate, and judge.

It is not merely in its legal relations that we find this work so interesting. Hardly a page but that has its hints or facts important to the general practitioner; not a chapter without especial matter for the anatomist, physiologist, or pathologist. The researches of our own countrymen on the corpus luteum and kyestein, are worthily remembered; and though in neither instance does Dr. Montgomery fully agree with these observers, he has yet done very much to render permanent the reputation of Dalton,[*] and the world-renowned E. K. Kane.

Our limits prevent such an analysis of the book as a whole or of any of its parts, as we should desire, while we deprecate the too general custom of merely quoting from preface or table of contents. We shall therefore confine ourselves to brief mention of a single topic, selected only because we are here compelled to dissent in some respects from Dr. Montgomery's conclusions.

On this point, the RELATIVE VALUE of the signs of pregnancy, decision is not easy—impossible, indeed, except by such elaborate and careful comparisons as are here furnished us.

Dr. Montgomery's division of all the ordinary signs of pregnancy[†] into presumptive, probable, and unequivocal, is both simple and convenient. The first group is very naturally made to comprise those constitutional, sympathetic, or distant symptoms which generally or frequently accompany pregnancy; suppression of the catamenia; irritability of the nervous system, as shown by body or mind; the changes undergone in character or function by the breast, stomach, salivary glands, or kidneys; the umbilical areola, and the dark abdominal line.

To the second group, are assigned the alterations, of whatever kind, evident during life in the uterus and its appendages, among which, not the least important, is the dusky hue of the vagina.

In the third class, Dr. Montgomery includes those evidences of the presence of a fœtus in utero given by palpation, external and internal, by auscultation, by actual inspection of the uterine contents when discharged, and by post-mortem examination of the organs themselves.

We need say nothing of the first and second groups of symptoms, those presumptive and probable, for all are familiar with their worthlessness when existing alone, and their frequent fallaciousness when combined. Not even from the well-developed mammary areola or the abundant presence of kyestein, ought a decided opinion to be ever given. We have seen the first in more than one case of uterine irritation unaccompanying pregnancy, and the last not uncommonly in dyspepsia, even in the male.

---

[*] Since the above was written, Dr. Dalton has very ably defended his positions with regard to the corpus luteum in the American Journal of the Medical Sciences for Jan. 1857, p. 113.

[†] Page 73.

Upon what sign of pregnancy, then, passing by, in this connection, the evidence given by abortion or labor, as also that from post-mortem inspection, and studying only the living mother, can we best rely as certain and reliable?

Upon three signs, says Dr. Montgomery:*

"1. Active movements of the child, unequivocally felt by another.

"2. Its presence in utero ascertained by ballottement.

"3. The pulsations of the fœtal heart."

In a previous page,† the placentary sound or uterine souffle is also spoken of as an unequivocal sign, but subsequently,‡ this opinion is very properly retracted. We ourselves have heard from vascular abdominal tumors sounds impossible in any way to be distinguished from the true murmur of pregnancy.

"If any one of these three signs," we are told, "be ascertained beyond doubt, it settles the question" of pregnancy. Is it, however, possible to ever ascertain each of them beyond all doubt?

When the fœtal pulsation can be heard, there can indeed be no doubt; but we do not think the same can be said of the others, particularly of those sensations of motion appreciable by the hand, whether they arise from causes independent or otherwise of the hand's action.

Evident movements of the patient's abdomen might be thought to leave little room for mistake, if discovered by inspection merely, much less if perceived by the observer's touch; and there are few practitioners, even of large experience, who would believe themselves liable to error on this point. Nevertheless, there are sources of such error, which, in some cases, there being no other reliable sign present, can only be guarded against by waiting patiently till the end of the normal period of pregnancy.

We say nothing of the movements of the intestines or their contents, which often simulate those of a child; nor of that new sign lately proposed by Dr. Oldham, of Guy's Hospital, as "a trustworthy characteristic," the contraction of the uterus itself under external manipulation, a sign which Dr. Montgomery has neglected even to mention, and which, after repeated trials, we are inclined to think very doubtful and uncertain. Still less would we speak of those sensations which are evident only to the patient herself, so often illusory; nor of those voluntary movements on her part, exhibited in cases of malingering, although these can at times be detected and checked only by the use of anæsthetics.

But it is to another large class of cases that we refer; to those which have deceived, as Dr. Montgomery allows, "very experienced and competent judges,"—for instance, Dewees, Ingleby, and even himself, where the movements are unintended, perhaps even unfelt, by the mother, though perfectly apparent to others. One striking and famous instance of this kind we repeatedly had an opportunity of examining in Edinburgh. The abdominal motions were here entirely involuntary and irregular, but so constant and well-marked as to have frequently deceived the shrewdest experts; and the husband, after careful auscultation, examination with the sound, and, above all, time had demonstrated that his wife's abdomen certainly contained no child, not even an extra uterine, still avowed that he could not disbelieve his own eyes, and that the motion must then be from a beast. Sometimes this anomaly may be explained by irregular action of the recti or other abdominal muscles, it being almost always accompanied by the usual signs of so-called spurious pregnancy, and its subjects generally hysterical; but in other cases it cannot as yet be accounted for. The very fact, however, of its occasional existence renders it necessary for all abdominal motions to be cut off from the group of absolutely certain and unequivocal signs. We doubt, indeed, if Dr. Montgomery would have so included them, had he noticed how completely he himself was begging this question when he declared, as one of his three "certain and unequivocal symptoms," "*active movements of the child, unequivocally felt by another.*"* We are compelled, therefore, to consider the first of the three signs, so far as its legal value is concerned, strongly so though it may be, as but presumptive.

---

* Page 75. † Page 73 ‡ Page 219.

Can ballottement, the second sign under consideration, be also simulated? We consider that it sometimes can. Dr. Montgomery, on the other hand, declares it "proof positive of a fœtus in utero."† He himself, however, gives cases in which Depaul and Cazeaux were deceived by simple uterine displacements, which gave to the finger "exactly the sensation" of a fœtus. Such cases, we are satisfied, are not uncommon, and are only unnoticed because unsearched for. One would hardly suppose a stone in the bladder to be thus mistaken, unless in a case of that strange, though at times perfectly successful experiment of the present day, where, to cure vesico-vaginal or vesico-uterine fistula, the os and cervix uteri are stitched into the cavity of the bladder; but Dr. Montgomery has known the pulsation of an artery through the vaginal wall pronounce the ascent and return of a fœtal head. We ourselves have felt a similar sensation given by the rebound of an intra-uterine polypus; in some cases by a small and pediculated extramural fibrous tumor, while, on the other hand, the return wave of fluctuation in menses retained, or in hydrometra, requires no ordinary touch to determine. Ballottement through the external abdominal wall must always be an extremely uncertain sign, as much so indeed as the simple percussions, in test of pregnancy, we have heard by Piorry's most unreliable hand. Ballottement per vaginam is of course much less deceptive, but still we think hardly to be called unequivocal. We have waived all mention of its inefficacy in placenta prævia, in most cases before the sixth month, and in every case after it where there happens to be any malpresentation of the child; and were we to confine our definition of pregnancy to its closest limits, as within only its longest possible normal term, though we ignore utterly that cruel and absurd point of law "quick with child," the possibility of mistake would seem yet greater; even if all cases of extra-uterine gestation were set aside. Children are sometimes retained, as in the case of a "secondary fœtus," and some forms of arrest of development or of destructive degeneration, months and even years in the uterus after the usual days of pregnancy, and even of the very capacity for impregnation, have ended, and it is not always that the uterus in these cases is found entirely empty of fluid.

---

* The italics are our own.

† Page 200.

We well know that the successive stages of pregnancy at which the various signs are distinguishable, justly give to each and all of them various degrees of relative importance, but we are now discussing the actual value of individual signs by themselves, so long as they are present, no matter when.

How is it, lastly, with the third of Dr. Montgomery's signs,—the pulsation of a fœtal heart?

To the consideration of this point Dr. Montgomery has devoted many pages, candidly confessing its every advantage, skilfully refuting every objection as yet urged against it, pointing out everything with which it could possibly chance to be confounded. By so doing he has greatly strengthened the opinion to which we were bred, and which our experience has always confirmed, that the fœtal pulsation is, when heard, not only an always certain sign of pregnancy, but in every case the *only* certain one.

But we strongly dissent from his closing remarks on the subject, intended as these evidently are, to express in a word his opinion.* "Having thus fully considered the several phenomena connected with pregnancy discoverable by auscultation, and with some years' additional experience, I feel bound to repeat the opinion which I formerly gave with reference to its application for the purpose of ascertaining the existence of pregnancy; and must again say, that without meaning to depreciate its great and acknowledged value as an *occasional* means of doing so, I am still of opinion that for those who are thoroughly conversant with the proper methods of examining doubtful cases, it will seldom be found necessary, if all the other more ordinary modes have been adopted with sufficient care; that if we inquire carefully and minutely into the history of our case, and know how to make good use of our hands and eyes, we will not often require the assistance of our ears."

* We quote from pages 237 and 238.

To our mind, the use of the ear in the diagnosis of pregnancy, of course mediately by the stethoscope, is much more satisfactory than sight or touch, because, as we have seen, where there is any positive evidence it gives it, and is therefore more certain, and infinitely more decent, besides being in almost every respect and instance much easier to propose and to practise for both patient and physician.

We consider this sign, the fœtal pulse, carefully distinguished from a quickened beat of the mother's heart, and from that of the listener himself, the last a frequent source of error, but one that Dr. Montgomery has entirely neglected to mention,—the only one on which a decided opinion ought ever to be formed that may be called for by a court of law, and the first one that should be sought in general practice. If it be obtained, much disagreeable questioning and all manipulation will, at once, be rendered unnecessary, and in many cases, therefore, unjustifiable.*

With thanks, for the gratification it has afforded, we have closed his book. It has freshened our recollections of the cheery, genial face, the thoughtful mind, and, better than all, the kind heart of whose existence we have had abundant proof.

H. R. S.

ART. VI.—1. *The Dissector's Manual of Practical and Surgical Anatomy.* By ERASMUS WILSON, F. R. S., &c. Edited by WILLIAM HUNT, M.D., Demonstrator of Anatomy in the University of Pennsylvania. Third American (from the last London) edition; pp. 582. Blanchard & Lea: Philadelphia, 1856.

2. *The Practical Anatomist; or The Student's Guide in the Dissecting Room.* By J. M. ALLEN, M.D.; late Professor of Anatomy in the Medical Department of Pennsylvania College, &c.; pp. 631. Blanchard & Lea: Philadelphia, 1856.

3. *Practical Anatomy.* A new arrangement of the "London Dissector," with numerous modifications, additions, and illustrations. By D. HAYES AGNEW, M.D., Lecturer on Anatomy, &c.; pp. 310. J. B. Lippincott & Co.: Philadelphia, 1856.

PROBABLY no medical book requires so much judgment in the arrangement of its several subjects, and such simplicity and perspicuity of expression, as that which is intended as a guide to an individual just beginning the study of practical anatomy. No previous knowledge of the subject, excepting an acquaintance with the skeleton (without which, it is supposed, that no one would be likely to enter upon the work of dissecting), can be taken for granted; no allusions made to or mention of previously undescribed parts, or organs, without some immediate explanation. The majority of students, who enter the dissecting-room for the first time, are totally ignorant of many facts, of which one who has been long familiar with the study, can hardly conceive. The animal body is to them a sealed book, written in an unknown tongue; and he who engages to become their teacher, should possess that rare and peculiar talent, which, if so applied, would enable him to comprehend and satisfy the wants of an inquisitive child in reference to a watch, or some other such complicated piece of mechanism, which he may have undertaken to separate and study. He should have a perfectly distinct recollection not only of the generally recognized, but of the many unexpressed difficulties, which lay in his own way when, with scalpel in hand, he first essayed to discover the mysteries concealed beneath the natural covering of the human form divine; and what Peter Parley has done for the infant student of geography and history, he should be able to do for the relatively not less well-informed student of anatomy. Nay, more; for, while the comprehension of the child can grasp only the more evident and striking truths of geographical science, the student of medicine is supposed to be able to appropriate to himself the knowledge, not only of the attachments of a few of the larger muscles, and the course of some of the more important bloodvessels, but all those complex relations of parts, an acquaintance with which is absolutely necessary to the conscientious practitioner of medicine and surgery. Here, then, lies the difficulty, to combine completeness with simplicity; and, we are compelled to state that, so far as our acquaintance with anatomical literature goes, no writer on practical anatomy has yet come fully up, or rather down, to the standard. Of the three volumes, whose titles stand at the head of this notice, all aiming at the point in question, that of Mr. Wilson has been for some time in the hands of the profession and students of this country, and has received the stamp of general approbation, having now reached its third edition. Its excellencies are numerous, and, we dare say, without fear of contradiction from proper authority, that no American or foreign book, published in this country, comes so near to answering all the requirements of those to whom it is addressed as the original edition of the work, rearranged by Dr. Goddard, of this city. In the present edition, Dr. Goddard's arrangement is still preserved; but, like many other good books to which we might point, the good qualities have become somewhat obscured, and even in many places completely destroyed by the numerous additions which the work has received. We venture to predict that, unless the author or editor (for it is difficult to say who the responsible person is) should pursue an opposite course, substituting the scissors for the pen, that, by the time the book reaches its fourth or fifth edition, it will have attained a development leading to serious doubts as to whether it is intended for the novice or the experienced dissector, possessing neither the simplicity requisite for the former, nor the completeness wanted by the latter.

---

* As we write, we learn Dr. Montgomery's resignation of the chair he has long and so worthily held; but, we are sure, he retires from its active duties with no intention of resting from the patient and laborious researches that have gained him such fame.

We could designate many parts that might with benefit be retrenched or expunged, but there is one which has always appeared to us as peculiarly out of due proportion, and we have been astonished that the work in passing through such experienced hands as Dr. Goddard and its present editor, should be still marked by the same inequality. We refer to the long account of the microscopic structure of the liver, which is made to occupy not less than six closely-printed pages. If there be a necessity for the introduction of so much matter of this sort in connection with one gland, which we cannot admit, the *practical* nature of so much of this kind of matter being a disputed point in books of more pretension, the same will hold true in regard to a number of other organs, the brain for example, the minute structure of which is not even alluded to in an intelligible manner.

The work of Dr. Allen, in point of size and appearance, bears a close resemblance to that of Mr. Wilson, but is inferior to it in convenience of arrangement and perspicuity of description. It is, however, an excellent book in many respects, and probably has the advantage of the former in its illustrations, which are more numerous, better selected, and better printed, although, in reference to this last-mentioned particular, neither has any reason to boast. Indeed, we cannot let the opportunity pass of advising the publishers, when they get out another edition of Mr. Wilson's book, to provide themselves with a new set of wood-cuts; many of those used in the present issue, and also in Dr. Allen's book, are evidently so much worn as to entitle them to an honorable pension, or, what would probably be more humane, to a complete annihilation by fire. If Dr. Allen will excuse us, however, we think we can put him in the way of improving his Dissector when a second edition shall be called for. His great fault is evidently a want of definiteness, and, more especially, too much presumption upon the student's previous knowledge of the subjects discussed. For example, the book opens with an account of the anatomy of the face, which, after stating its general limits, the author says it is convenient to consider as divided into several regions; "as the parotid, the masseteric, the buccal, the mental, the labial, the nasal, the orbital, and the malar. The location of each of these divisions is indicated by its name. It is not necessary for our present purpose to define their boundaries." Surely, in penning this paragraph, the author must have forgotten that he was addressing himself to students who cannot be expected to understand the significance of such terms as masseteric, buccal, &c., much less know the boundaries of the regions to which they are applied. We, therefore, beg leave to differ with him upon the assertion contained in the last sentence of the quotation, and take the liberty of saying that, if it was proper to mention the names of these regions in this connection, it was absolutely necessary that the student should be informed where they are situated, and what their boundaries are. We supposed upon first reading this paragraph, that the author only intended to defer the information until proceeding to an account of each region separately, but on looking a little further in the same section, we found that he at once enters into an account of the structures contained in each, without so much as an allusion to their situation or limits.

Again, in the third paragraph of this same section, we read, in reference to the parotid and masseteric regions, that, "as the integument is raised and reflected forwards, the platysma myoides will be found traversing the anterior part of these regions." Now, aside from a general want of clearness in regard to the precise position and direction of the platysma myoides in this situation, the author does not once tell the student that this big name, which it is reasonable to suppose the latter has never seen or heard before, is applied to a muscle. It is true that by looking in his dictionary he would find the term *myoid* to mean, like a muscle, but unless he should happen to find there also an account of the muscle in question, we doubt whether he would be much the wiser for his trouble.

We find this same want of clearness, and these same omissions running throughout the entire work. Thus, in another part of the same section, it is stated that "the buccinator muscle is separated behind from the ramus of the inferior maxilla and masseter by a mass of fat and two of the *buccal glands* called molar." No account of these glands having been previously given, and no word of intimation as to their nature, size, or appearance, accompanying the mention of their names, it appears to us that a *new* student would be sorely puzzled to know what is meant; and here, too, his dictionary would avail him but little; for from it he would simply learn that the term buccal had something to do with blowing, and molar with grinding, neither one of which definitions would be likely to satisfy his wants. Let it be borne in mind, that it is not to the use of these terms that we object, but if the author thought fit to mention the existence of the organs to which they are applied, he should have furnished the uninitiated student with some intimation of their nature, size, or appearance.

Section II begins with some directions for dissecting the orbital region, in which connection the student is told, that the "integument in this region should be removed by cutting in the direction of the fibres of the orbicularis," but what this direction is, he is not informed, nor is there any reference to a wood-cut by which he might be enlightened. In a subsequent paragraph, we are told that this same orbicularis originates from the *tendo-palpebrarum*, but there is not in this connection, nor in any previous part of the book, the least clue as to the situation, size, or attachment of this important structure.

We hope that Dr. Allen will see the justice of these criticisms, and numberless others of a similar kind might be made, for however small the faults alluded to may appear to an individual as familiar with the subject as he doubtless is, to one who, like the writer, has but very recently experienced the difficulties of a first dissection, they are of very serious import.

The "London Dissector" has never been a very great favorite with the anatomical students of this country, but possesses merits far beyond its previous lack of success. Dr. Agnew's rearrangement has very much improved the working qualities of the book; and with the benefit of numerous illustrations which in this edition have for the first time been introduced, to say nothing of the excellent manner in which the publishers have performed their part, we look forward to its speedy adoption by many of the institutions of this country. We are a little surprised, however, to find that a teacher of Dr. Agnew's keen anatomical eyes should have allowed such a plate as No. 53 to appear as an illustration of the parts intended. The figure in question we have always considered as one of the most serious blots upon the work from which it was originally taken, and we certainly never expected to see it repeated.

ART. VII.—*Obstetrics: the Science and the Art.* By CHARLES D. MEIGS, M.D., Professor of Midwifery and the Diseases of Women and Children in Jefferson Medical College, Philadelphia, &c. &c. Third edition, 8vo. Philadelphia: Blanchard & Lea. 1856.

A WORK that has been so long before the profession, and so extensively read as that of Dr. Meigs, and more especially as its popularity is the reward of evident excellence, requires no notice at our hands beyond the simple announcement of a new edition. We may state, however, as a bit of personal history, that the author does not abate one jot or tittle from his peculiar views in regard to the "endangium," the nature of puerperal peritonitis, and some other subjects with which his name is so frequently associated, notwithstanding the great opposition which they have encountered both in this country and in Great Britain.

Original Communications.

ART. I.—*Practical Remarks on Strabismus, with some Novel Suggestions respecting the Operation for its Relief.* By THOMAS GRAHAM, M.D., F.R.C.S., &c. &c., late of Sydney, Australia.

IT is now about seventeen years since the first operation for Strabismus, so philosophically suggested by Stromeyer, and so boldly executed by Dieffenbach, was performed. It was hailed as a great discovery, and excited an unusual amount of eagerness on the part of some of the members of our profession; and persons afflicted with this deformity became suddenly objects of interest and even solicitation.

Thousands have been operated upon, with various results; but it still admits of doubt whether the aggregate symmetry of those afflicted with this deformity has been increased, and whether the impression left upon the public mind, and even on that of the profession, is not rather unfavorable to this operation. I think it will be both interesting and instructive to the members of the profession, to examine how far there exists any legitimate ground for these unfavorable impressions, and how far the present defects of the operation admit of remedy. Very soon after the importation of this novel and ingenious proceeding into England and this country, the literature on the subject was suddenly and copiously supplied; but it was evident that some wrote rather *for* than *from* practice, and that in every case the experience was too limited, the time for observing subsequent results too short, and the mental bias in its favor too strong, to admit of a calm and satisfactory verdict upon the merits of the operation. Now that many years have elapsed, and vast numbers have been operated upon; that enthusiasm has cooled down and comparatively few cases remain, we are able to approach the subject in a more philosophic spirit, and fairly and impartially to discuss its merits and demerits. As my object in this article is chiefly practical, I do not propose to travel over the difficult and often-discussed question of the pathology of strabismus, but only to glance briefly at a few points that seem to bear upon its treatment.

Much has been said about the importance of determining which is the defective eye in any given case, and rules have been laid down for ascertaining this point. But there can be hardly any doubt, that in almost every case both eyes are equally implicated in the abnormal position; for although one may be habitually inverted and the other straight, yet if the strabismic eye be brought into play, it assumes a normal condition, and moves in obedience to the will; and the other eye, if suddenly uncovered, will be found precisely in the position that the diseased eye usually assumes; and I have proved over and over again, that as favorable a result is obtained by operating upon one as the other. The fact is, that in strabismus the two eyes start from different points; both respond to the efforts of the will, and each is found, when examined separately, to move equally well in every direction. The disease, therefore, is rather relative than positive. Practically, we should endeavor to find out which is the eye that is habitually inverted, and for this purpose should test the relative power of vision in the two eyes, and then select for operation the one in which the sight is defective. In the alternating form of the disease it is quite immaterial which is chosen, and in any case the result would be the same as regards the removal of the deformity; but the defective eye is selected in the hope of benefiting its vision simultaneously with its position.

The first point that impresses itself upon the mind of a careful observer, is the extreme variety of causes to which the disease is attributed; but when these are analyzed and grouped, they may be arranged under three heads: 1st, where the nerves supplying the muscles of the eye are affected through the brain and spinal cord, as in cases following convulsions, fevers, &c.; 2d, where irritation is propagated from the extremities of nerves, as in cases following injuries, ophthalmia, &c.; 3d, from morbid volition, as in cases resulting from temporary excitement, &c. In investigating the causes of strabismus, we find a very close analogy between this disease and talipes. Another circumstance, equally conspicuous and more embarrassing, is the numberless shades of difference in the degree of departure from the normal position, whether it be inversion, or, more rarely, eversion; or, still more rarely, elevation or depression. In extreme cases we find that when one eye occupies a central position, the other is so far drawn into the corner that about half the cornea is concealed by the folds of the caruncle. In slight cases, the departure from the central axis is from half a line to a line, and between these two extremes there is every shade of difference. The same may be said respecting divergent strabismus; but the third variety, viz., that in which either the superior or inferior straight muscle is involved, is never found in an extreme degree. Again, it is found that the condition of the sight is very different in cases that, in other respects, are apparently similar. The rule certainly is, that in cases of habitual strabismus of some years' standing, the function of the organ is impaired; but I have met with several well-marked cases in which sight has remained perfectly good, and with others in which the degree of impairment of vision has varied considerably, some being able to read large print, while others were scarcely able to distinguish features, or even large objects. In the alternating variety, vision is almost invariably found to be equally good in both eyes: and these varieties exist without any obvious change in the appearance of the eye, either as regards the condition of the pupil, or of any of the transparent media, such as may generally be observed in amaurotic cases. It is quite possible that the ophthalmoscope would reveal changes in the retina and choroid, in some of these cases, but I have not as yet had opportunities of observing a sufficient number to speak with any certainty upon this point. It has been said that the power of the external rectus muscle, and consequently of eversion, varies considerably, as evinced by the extent to which the eye can be acted upon by this muscle; and this may be true in some cases, but the statement must be received with much caution, particularly where the strabismus is extreme; because the limit to eversion of one eye depends upon the other having reached its extreme boundary.

In considering the question of treatment, I propose to limit my remarks exclusively to operative proceedings, never having been able to derive the slightest advantage from any other plan, after deformity has existed for some time. The operation that has usually been practised for the removal of this deformity has consisted in the free division of the parts attached to the inner surface of the globe, including the conjunctiva, sub-conjunctival or ocular fascia, rectus muscle and its sheath; in fact, it has been recommended by one author, that the inner surface of the sclerotic should be *cleaned*. If we bear in mind that this operation has been performed in some thousands of cases, of all ages, and presenting the numerous varieties to which I have already alluded, the wonder is, that a greater number of failures have not occurred, and that a uniform procedure should have been found so extensively applicable to so many different degrees of the deformity under consideration. When the eye is freed from the muscle, it seems in many cases to have an inherent power of assuming the straight position, so that what seems improbable in theory exists in fact. At the same time, untoward results sometimes follow the operation, either immediately or at a subsequent period, rendering the condition of the patient worse than before. As, therefore, the motives for recommending such an operation are mainly based on considerations respecting personal appearance (the improvement to sight being secondary and uncertain), it becomes a matter of great practical moment to consider what are the defects of this operation, and how far they admit of correction. The first point that strikes every close observer, even in the most favorable cases, where the eye has assumed a perfectly normal position, and moves freely, is a certain sinking in and loss of the caruncle, so that the inner part of the globe seems more exposed than that of the opposite eye, and a fossa exists in the place of the caruncle. This, so far as my experience goes, is an invariable result, and explains a circumstance that has been often remarked, that those cases are the most successful in which it has been necessary to operate upon both eyes, the double defect being less conspicuous than when one eye only has been operated upon, and is brought into comparison with the natural state of the parts upon the opposite side. Another unfavorable result that sometimes occurs, is increased prominence of the globe; this takes place usually immediately after the muscle is divided, but I have known it to occur at a subsequent period, and gradually increase for a time. This, no doubt, arises from the loss of balance of power between the straight and oblique muscles, the latter acting with undue power when one of the former is divided. It is difficult to explain why this occurs in some cases and not in others, and to indicate any sign by which such a result may be predicted; but this I shall endeavor to do in a subsequent part of this paper. The most serious and damaging effect, is the occurrence of eversion: this may be an immediate or a very remote consequence of the operation; and when the previous inversion has been slight, the increased prominence and extensive reaction in the outward direction, is sometimes very great, the deformity presenting an almost hideous appearance; to the patient it becomes a serious grievance, and to the operator a kind of haunting spectral vision. I have met with cases in my own practice, and in that of others, in which the two cornea have occupied the outer angles of the lids, particularly where both eyes have been operated upon at the same time.

There are some other minor objections to which I may briefly allude. The extensive wound in the conjunctiva heals very slowly, remains red and swollen for a considerable time, often gives rise to a fleshy growth that requires removal, and leaves a scar more or less distinct; and the power of moving the eye in the direction of the divided muscle is often quite lost, constituting in itself some deformity. In stating therefore the objections to the old operation, it may be said, that there are invariably sinking and loss of the caruncle, a scar, usually a considerable loss of power of inversion, not unfrequently an increased prominence of the globe, and occasionally eversion, more or less complete, either immediately or as a remote effect; and both prominence and eversion may coexist. Now, considering that the operation is undertaken and submitted to almost exclusively with the object of removing a deformity, it becomes a question whether this deformity is removed to a sufficient extent, and in a sufficient number of cases, to justify the proceeding; and whether one decided case of eversion does not outweigh a large number of what are usually deemed successful. Whatever may be the opinion of the profession on this point, I think it must be admitted, that, with such defects, a wide margin is left for improvement; and that if a procedure can be suggested, in which no sinking in of the caruncle occurs, nor any perceptible scar remains; in which increased prominence and eversion never take place; and in which the healing process is complete in a week, and is never attended with the formation of granulations, I think all must admit that a very important point will be gained. Such a plan I have recently been in the habit of adopting, and it is chiefly with the view of setting forth its details that I have been induced to bring the subject before the notice of the profession.

The essential principle of the operation I am about to describe, consists in the division of the muscle subconjunctivally. This, it will be remarked, is not altogether a novel suggestion; it has been recommended by M. Guerin, and has been attempted with more or less success by several surgeons in England; but it has been found difficult, and sometimes impracticable in consequence of a defective method of procedure. Thus it is suggested to draw the eye forcibly outwards, so as to render the internal rectus tense; then to introduce a small bistoury beneath the muscle and divide it. Any one, who has attempted the operation in this way, will agree with me that it is one of extreme difficulty; the loose capsule round the muscle prevents the edge of the knife from acting upon the tendon, nor can the latter be made sufficiently tense to be thus divided. The difficulty and uncertainty of this operation have resulted in its having been rarely attempted, more rarely accomplished, and *never repeated* by the same surgeon. The method that I propose, and that has been performed by myself and some of my medical friends in Sydney, Australia, in a large number of cases, is the following: Having placed the patient, if nervous or restless, or very young, under the influence of chloroform, the eyelids fixed open with a spring speculum, and the globe everted by an assistant seizing the conjunctiva near the outer margin of the cornea with a pair of forceps, the operator pinches up the conjunctiva at a point corresponding to the lower border of the internal rectus, and makes a small opening with a pair of rather strong, blunt-pointed scissors. He then seizes the subconjunctival fascia, and divides it to the same extent, so as to clearly and cleanly expose a small surface of sclerotic. The ordinary strabismus blunt hook, bent at right angles, is now made to sweep round the globe, so as to pass beneath the muscle; this requires care, and a little practice is essential to success, and may be known to be accomplished by the peculiar elastic resistance that is felt: the blades of the scissors are next passed through the opening, and by a succession of small cuts the tendon may be readily divided between the hook and the insertion into the sclerotic, and close to the latter; the clipping of the tendon may sometimes be recognized by the peculiar creaking sensation imparted to the scissors. Some little difficulty in making a complete division is experienced when the insertion of the tendon is rather broad, in which case, I am in the habit of making a small counter-opening in the conjunctiva corresponding to the upper border of the muscle, introducing the scissors from above, and having passed one blade beneath the remaining slip of tendon, dividing it in the same direction. This counter-opening has the advantage of facilitating the escape of blood that may have become infiltrated beneath the conjunctiva, and does not in any way interfere with the principle and aim of the operation, which is to leave a broad band of conjunctiva between the cornea and the inner caruncle intact. The advantages of this plan, as contrasted with the old one, seem to me to be very great. It has, in the first place, the merit possessed by all subcutaneous sections, of immunity from much subsequent inflammation and suppuration, and is, therefore, followed by a very rapid and certain cure; no granulations ever form, and the caruncle maintains its natural position, and does not shrink away into a deep fossa, as is invariably the case when the usual operation has been performed. I may also state, that, as far as my experience yet goes, increased prominence of the eye is more rare, eversion never occurs, and the natural movements of the eye are more complete. This I attribute to the fact, that the ocular fascia is but little interfered with, and that a good firm union takes place between the divided muscle and the globe of the eye.

Such seem to me to be the advantages of the operative procedure that I here recommend—advantages that are of so important a nature that, in fairly stating the case to the patient, if the old operation is contemplated, it certainly admits of doubt if the personal appearance will be much improved, even under the most favorable results; and there is always a risk of increased prominence and of eversion. If, on the other hand, my mode of procedure be adopted, the surgeon may at least feel assured, that if the deformity be not altogether removed, it will not be rendered worse; and in many cases the result will be so perfect, that the most experienced eye will not detect any defect, or be aware that any operation has been performed.

But it may be asked if there are any objections to this operation, and any cases in which the old operation is preferable. It must be admitted that it is rather more difficult to perform, that there is a greater liability to leave some portion of the tendon undivided, and that sometimes some inversion remains, in consequence of the attachment of the muscle to the fascia after it is divided from the sclerotic. This, however, will often rectify itself afterwards, and where this is not the case it is better either to operate on the other eye, or, if the cast is slight, be content to leave the case in that state, rather than risk eversion by further interference. It is only in cases of long standing, and where the strabismus is very extreme, and where the eye is small and deep-set, and where the subconjunctival operation produces but very little benefit, that the old operation is justifiable.

Before concluding this paper, I will take the opportunity to glance at two or three points of some practical interest, having reference to the age of the patient and condition of the eye, when an operation is contemplated, and at the effect of the operation upon vision.

As regards the first point, my own experience, derived from more than a hundred cases, is, that the most favorable results occur in young adults, as contrasted with children. Cases in which the relative position of the eyes is not uniform, but aggravated and altered by mental or bodily excitement, and in which there are oscillatory movements, are all uncertain in their results, and very liable to be followed by undue prominence of the globe, or by eversion, or both. On this account, I do not find operations on children succeed so well as on young adults. As regards the effect of the extent of the distortion in influencing the result of the operation, it is difficult to lay down any fixed rules; but, judging from my own experience, I should say that in extreme cases of inversion, there is only a partial improvement after the division of one muscle, and it is a nice point to determine if there be sufficient distortion remaining to make it safe to divide the inner rectus of the other eye without risking eversion. Unless the eye occupies a position at least midway between the inner canthus and the central axis, it is not safe to operate.

The chief causes of eversion after the operation, are to be traced to the previous *slight* degree of the inversion, to the unsettled state of the disease, or to an undue division and separation of parts; and if the slightest eversion occur at the time of the operation, there seems to be a constant tendency to increase until it has reached its extreme limits. This arises from the disadvantage at which union takes place, the power of the external rectus muscle, and the loss of the rectifying and controlling power of vision. Eversion sometimes occurs, weeks and months after the operation, in consequence of the gradual stretching of the uniting medium, analogous to that which sometimes takes place after fracture of the patella, in which very extensive separation of the two portions occurs. The very worst cases of eversion that I have ever seen, have resulted from a simultaneous division of the muscle of both eyes, a proceeding that is in no case justifiable. The effect of the operation upon vision is surrounded with obscurity and difficulty. In the first place, much variety exists in the extent to which vision is impaired by strabismus. In the alternating form, both eyes are equally good; in children, but little damage is done; but where the deformity has existed several years, there is almost invariably imperfect vision, differing, however, in degree in nearly every case.

In several remarkable cases that have come under my observation, as well as others under that of my friend Mr. Dixon, of London, a very sudden and complete restoration of sight has followed the operation. I should hesitate to assert this curious and almost inexplicable phenomenon, had I not verified the fact over and over again in a manner that admits of no doubt. Mr. Holthouse, of Westminster Hospital, London, has endeavored to explain this by supposing that the muscles compress the eyeball, and that the operation restores this power. If this were the true solution, we should find more uniformity in the result, but this is not the case; the improvement is sometimes gradual; and at other times no perceptible change occurs. These considerations suggest the performance of the operation during childhood, and if the result could be made equally favorable in other respects, this would be the most desirable period for its performance, the subconjunctival method rendering the usual objections to an operation at this period of life less obvious.

It will be seen that my chief object has been to describe and set forth the advantages of the subconjunctival operation; and it may be thought by some to have the disadvantage of difficulty and uncertainty, without sufficiently counteracting advantages, particularly as it is alluded to very briefly and somewhat disparagingly by recent writers on this subject, such as McKenzie, Walton, and Holthouse. After having tried it in above a hundred cases, I never now adopt the old method, and I am strongly impressed by the uniformity of a favorable result. In no case have I witnessed increased prominence or eversion. In some cases, it is true, some amount of inversion has remained, but this occurs nearly as frequently after the old operation; so that a patient may be now sure of improvement from the former method, without risking the occurrence of any of the unfavorable concomitants of the latter.

As I have mentioned in the foregoing remarks, cases of eversion following the operation of dividing the internal rectus muscle sometimes come under our observation; and as this is a very distressing deformity, far worse indeed than that for which the operation was originally performed, it may not be out of place to mention here that I have operated upon three such cases with most satisfactory results. The procedure adopted in these cases, I will briefly describe, premising, however, by stating, that it is rather difficult and tedious; should, as a general rule, be performed with the patient under the influence of chloroform; and depends mainly for its success upon a careful attention to minute details.

The eyelids being kept apart by means of the wire speculum, the structures covering the ball of the eye at the inner canthus, including the conjunctiva, cicatrix, ocular fascia, and muscle, should be all carefully dissected *en masse* from the sclerotic, in the form of a flap, the primary incision being made vertically about three lines from the margin of the cornea. Not less than one-third of the globe of the eye should be in this way exposed, which may be readily accomplished by means of scissors and forceps. This having been done, the operator should turn his attention to the external rectus muscle, which may be divided in the usual way. It is preferable that this latter should not be done previous to the dissection of the parts at the internal canthus, for the integrity of the external rectus aids very materially in steadying the eye during the performance of the operation.

The flap dissected from the internal surface of the eye is now to be stitched by means of two or three sutures to the little slip of conjunctiva left near the border of the cornea. For this purpose delicate curved needles should be employed, armed with fine silk ligatures; in their introduction the flap should be drawn forwards and downwards with the forceps, and the needles passed from within outward, entering them as near the inner canthus as possible, and bringing them out deep by the side of the ball. The requisite number of ligatures having been thus passed through the flap, the needles should then be made to penetrate the remnant of conjunctiva next the cornea, a procedure not always easily accomplished, owing to the thinness of the membrane in this situation, and the liability of the sutures to tear out. To obviate this difficulty, I make use of the following expedient: the slip of conjunctiva is dissected up toward the cornea, the needle is passed through its base, then back again so as to include a portion of the membrane, and then closely drawn. The sutures are now ready to be tied, but before doing so, as much of the larger flap as can be spared should be trimmed off with the scissors, leaving only sufficient to insure the retention of the ligatures. The latter may now be tied, the immediate effect of which ought to be a slight inversion of the eye, and it is desirable that the parts should unite in this position, for the subsequent tendency to eversion will usually correct this defect. The sutures may be allowed to remain until they ulcerate out, the inflammation produced by their presence being usually slight. The mobility of the eye is much diminished by the operation; if it can thus be made to occupy a central position, the restricted movement is a minor consideration.

I saw Mr. Bowman perform this operation at the Ophthalmic Hospital, Charing Cross, London, with his usual neatness and dexterity, and with the most satisfactory result; and having now had some personal experience in the matter, I am convinced of its practicability and successful application. It need hardly be stated, however, that its performance requires great patience and perseverance upon the part of both operator and patient, and it not unfrequently happens that it has to be repeated before the desired result is obtained. I may mention in addition, that a most satisfactory circumstance connected with a cure produced in this way, is the drawing forward of the caruncle to its natural position, thus remedying the deformity resulting from the sinking in of this little body.

ART. II.—*Mortality of Philadelphia, for October, November, and December,* 1856; *collated from the Health Office record.* By WILSON JEWELL, M.D.

THE mortality on record for the last quarter of the year 1856, amounts to 2982. This number of deaths includes a period of ninety-eight days, from September 27th, to January 3d, 1857, and averages thirty and a half deaths per day. The mortality for this quarter exceeds that of the same quarter of 1855 by 811, or more than 15 per cent.

The still born for the quarter amounted to 145; while the deaths from external and other adventitious causes are set down at 331; in all 476: thus reducing the deaths from recorded diseases to 2506.

The deaths among males were 1489; while those among females numbered 1493. In this instance the excess is with the female sex.

The deaths among children under ten years of age amounted to 1601 (exclusive of still born), equivalent to 56·43 per cent.

The mortality from "endemics" amounted to 861; more than 23 per cent. over those for the fourth quarter of 1855.

Of the diseases under this head, scarlet fever furnishes 438 deaths: more than one-half the whole number. This disease has been extensively prevalent during the entire quarter; and from the number of deaths, appears to have been unusually fatal. Almost every ward throughout the entire city has suffered more or less from its ravages; although the western and northern sections have been more severely visited. The period of infancy which appears to have suffered more than any other, was that between two and five years. Four hundred and eighteen of the deaths were in children under ten years of age. Measles furnished 55 of the deaths under this head. This exanthem is on the increase.

The "nervous" system contributed 429 of the deaths for the quarter; being rather more than one-seventh of the whole mortality. Convulsions in children furnished 142, of which number 80 occurred in children under one year old.

The "organs of respiration" are charged with 661 of the deaths. Of these, consumption of the lungs makes up 357, more than one-half, and inflammation of the lungs, 118.

By a comparison of the deaths of this quarter with those under the several heads for the fourth quarter of 1855, it will be found that in every instance, there has been an increase, with the exception of still born, in which there will be found a decrease.

The fourth or last table gives the deaths for each week, and shows that the highest number of deaths in any one week was 269, between the 20th and 27th of December. The lowest in any one week was 166, between the 11th and 18th of October.

The deaths among children, or those under twenty years of age, were 1864, or 25 per cent. more than those over twenty, which amounted to 1118.

TABLE No. 1.

Deaths for the Fourth Quarter of the Year 1856, *classified.*

	Oct.	Nov	Dec.	Male.			Female.			Total.
				O.	N.	D.	O.	N.	D.	
1. *Endemic and Contagious Diseases,* Zymotic or Epidemic, ...	222	253	386	102	103	191	120	150	195	861
2. *Uncertain or General Seat,* Sporadic Diseases, ...	161	133	121	83	65	66	78	68	55	415
3. Nervous System, ...	141	117	171	82	60	86	59	57	85	429
4. Organs of Respiration, ...	218	176	267	105	88	137	113	88	130	661
5. " Circulation, ...	14	22	28	8	10	17	6	12	11	64
6. Digestive Organs, ...	36	36	63	14	21	28	22	15	35	135
7. Urinary "	3	2	7	2	1	7	1	1		12
8. Organs of Generation, ...	4	6	8				4	6	8	18
9. " Locomotion, ...	3	2	6	2	1	3	1	1	3	11
10. Integumentary System, ...	1	2	2	1	1	1		1	1	5
11. Old Age, ...	16	10	14	7	2	4	9	8	10	40
12. External Causes, ...	41	41	25	28	22	15	13	19	10	107
Still Born, ...	37	38	70	18	23	37	19	15	33	145
Unknown, ...	23	20	36	16	12	20	7	8	16	79
	920	858	1204	468	409	612	452	449	592	2982

TABLE No. 2.

1. *Endemic and Contagious diseases—Zymotic or Epidemic.*

	Male.	Female.	Under 1 yr.	1 to 2.	2 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	80 to 90.	90 to 100.	100 to 110.	Total.
Cholera, ...		1							1									1
" Infantum, .	9	3	7	5														12
" Morbus, . .	2	1				1						2						3
Croup, ...	50	48	18	21	45	13						1						98
Diarrhœa, ...	6	14	6	1	1				2		4	1	1	3	1			20
Dysentery, ...	20	19	5	6	2	1			3	4	5	6	2	4	1			39
Erysipelas, ...	15	12	9	1	2				1	2	4	3	1	3	1			27
Fever, ...	1	3					1		2							1		4
" Bilious, . . .	4	3					1		2	2	1			1				7
" Congestive, . .		2		1		1												2
" Intermittent, .	1	7	1	1	2				1					2	1			8
" Nervous, . .	1	2				2			1									3
" Remittent, . .	2	4	1		1	1					1		1	1				6
" Scarlet, . . .	200	238	52	68	199	99	12	3	3	2								438
" Typhoid, . .	37	43	1	3	5	6	3	7	18	17	7	6	4	3				80
" Typhus, . . .	8	5				1		1	9	1	1							13
" " Icterodes,	1								1									1
Hooping-Cough, . .	3	11	7	3	3	1												14
Measles, ...	22	33	13	14	19	7		1	1									55
Small-Pox, ...	11	14	6	3	3	5	2	1	2	2			1					25
Syphilis, ...	1			1														1
Varioloid, ...	2	2		2		1	1											4
	396	465	126	130	282	139	20	13	47	30	23	19	10	17	4	1		861

2. *Uncertain or General Seat—Sporadic Diseases.*

	Male.	Female.	Under 1 yr.	1 to 2.	2 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	80 to 90.	90 to 100.	100 to 110.	Total.
Abscess, ...	5	6		2	1				2		3	2	1					11
" Psoas, ...	1								1									1
Anasarca, ...	2				2													2
Cancer, ...	2	19	1	1					2	2	3	4	7	1				21
" Breast, ...		1										1						1
Congestion, ...	1	1	1									1						2
Cyanosis, ...	10	4	12			2												14
Debility, ...	54	45	47	3	3	2				1	2	4	8	14	12	3		99
Dropsy, ...	43	32	2	3	16	12	3	1	5	7	4	7	8	6	1			75
Fungus Hæmatodes, . .		1									1							1
Gangrene, ...	3	1						1			1	1	1					4
Gout, ...	2										1	1						2
Hemorrhage, ...	3	2	1			1				2	1							5
Hydrophobia, ...	1					1												1
Inanition, ...	11	9	14	1	1							1		2	1			20
Inflammation, ...	1	3	3			1												4
Malformation, ...	2	4	6															6
Marasmus, ...	51	54	50	31	10	4			2	2	1	1	2	2				105
Mortification, ...		1								1								1
Rachitis, ...	3			1	1	1												3
Scirrhus, ...		2									2							2
Scrofula, ...	7	6	3	3	2	1			1	1		1		1				13
Sore Throat, ...	2	1	1		2													3
Tabes Mesenterica, . .	7	3	3	4	1				1		1							10
Tumor, ...		4									2		2					4
Ulceration of Throat, . .	3	2	1			4												5
	214	201	145	49	39	29	3	2	14	16	22	24	29	26	14	3		415

3. *Nervous Diseases.*

	Male.	Female.	Under 1 yr.	1 to 2.	2 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	80 to 90.	90 to 100.	100 to 110.	Total.
Apoplexy, ...	19	14							2	7	6	7	8	2	1			33
Coma, ...		1								1								1
Concussion of Brain, . .	2								1					1				2
Congestion " . .	21	16	12	3	13			1	2	1	3	2						37
Compression " . .	1	1									1	1						2
Convulsions, ...	70	72	80	27	18	4	1	2	2	4	3			1				142
Cramp, ...	3			1	1			1										3
Disease of Brain, . . .	14	9	6	3	4		2	1	3	1	2		1					23
Dropsy "	21	19	14	10	10	5					1							40
Effusion "	12	7	5	5	3	1		1		2		1	1					19
Epilepsy, ...	2	1					1		1			1						3
Inflammation of Brain, .	34	35	26	9	17	10	1		3	1		1		1				69
Mania, ...	1	3								1	2	1						4
Mania-a-Potu, ...	12	5							2	8	2	4		1				17
Palsy, ...	7	11		1				1		3	4	1	2	4	2			18
Softening of Brain, . .	6	6	2		2			1		2	2	1	1	1				12
Tetanus, ...	3	1	1					1	1		1							4
	228	201	146	59	68	20	5	9	17	31	27	20	13	11	3			429

4. *Organs of Respiration.*

	Male.	Female.	Under 1 yr.	1 to 2.	2 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	80 to 90.	90 to 100.	100 to 110.	Total.
Asthma, ...	2	1							1		1			1				3
Congestion of Lungs, .	12	16	7	3	6	2			2	1	1	2	2	1	1			28
Consumption of Lungs, .	174	183	6	10	11	7	4	31	104	85	44	28	21	5	1			357
Disease of Chest, . . .	1				1													1
Disease of Lungs, . .	7	2	3								2	1		2		1		9
Dropsy of Chest, . . .	12	8		1	9	4			2			2	1	1				20
Effusion on Chest, . .	1				1													1
" Lungs, . .	1	1											1		1			2
Hemorrhage from Lungs,	6	7	1					1	3	5		1	2					13
Inflammation of Bronchi,	40	39	33	18	15				2	2		1	2	4	2			79
" Chest, .	1	1			1								1					2
" Larynx,	5	7	1	1	4	2			2	1		1						12
" Lungs, .	58	60	29	17	35	5	3	3	6	5	5	5	1	2	2			118
" Pleura,	5	2							2	1	2		2					7
" Trachea,	3	2		1	3				1									5
" Tonsils,	1	2	2							1								3
Palsy of Lungs, . . .	1				1													1
	330	331	82	51	87	20	7	35	125	101	55	41	33	16	7	1		661

5. *Organs of Circulation.*

	Male.	Female.	Under 1 yr.	1 to 2.	2 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	80 to 90.	90 to 100.	100 to 110.	Total.
Anæmia, ...	1	1		1							1							2
Aneurism, ...	3								1	1		1						3
Angina Pectoris, ...	1										1							1
Disease of Heart, ...	20	20	4	2	1	2		2	5	4	2	5	7	4	2			40
Dropsy of Heart, ...	2	3			1	1				1			2					5
Enlargement of Heart, . . .	5	2				1	1			1	1		2	1				7
Inflammation of Heart, . .	2	1				1				2								3
Ossification of Heart, . . .		1								1								1
" Pulmonary Arteries,		1												1				1
Rupture of Heart, ...	1								1									1
	35	29	4	3	2	5	1	2	7	10	5	6	11	6	2			64

6. *Digestive Organs.*

	Male.	Female.	Under 1 yr.	1 to 2.	2 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	80 to 90.	90 to 100.	100 to 110.	Total.
Abdominal Dropsy, . . .		1			1													1
Abscess of Liver, ...	1										1							1
Cancer of Rectum, ...		1									1							1
" Stomach, . . .	2										1	1						2
Cancrum Oris, ...		1			1													1
Cirrhosis of Liver, ...	1											1						1
Colic, ...	3	3	1					1		1		2	1					6
Congestion of Liver, . . .	1										1							1
Constipation, ...	1										1							1
Cramp of Stomach, . . .	1										1							1
Disease of Liver, ...		4	1								1	1		1				4
" Stomach & Bowels,	4	5	5			1							1	2				9
Enlargement of Liver, . .		1			1													1
Hem'age from Stom. & Bow.,	3	3							3		1	1		1				6
" Umbilicus, .		1						1										1
Hernia, ...	1		1															1
" Strangulated, . .	1	3								1		1	2					4
Ileus, ...	1									1								1
Inflamm'n of Liver, . . .	4	3		1			2		1			2		1				7
" Peritoneum, .	9	12	1	1	2		3	1	7	4	1	1						21
" Stom. and Bow.,	22	26	7	4	5	3	2	2	5	6	6	3	4	1				48
Intussusception, ...	1											1						1
Jaundice, ...	1	2	1									1			1			3
Perforation of Intestines, .		1				1												1
Stricture of Bowels, . . .	1		1															1
Teething, ...	2	2	3	1														4
Ulceration of Stom. and Bow.,	2	3									3		2					5
Worms, ...	1		1															1
	63	72	22	7	10	5	7	5	16	13	18	15	10	6	1			135

7. *Urinary Organs.*

	Male.	Female.	Under 1 yr.	1 to 2.	2 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	80 to 90.	90 to 100.	100 to 110.	Total.
Albuminuria, ...	3								1		2							3
Anuria, ...		1	1															1
Disease of Bladder, ...		1			1													1
" Kidneys, ...	5								1		1	2	1					5
" Urinary Organs, .	1												1					1
Inflammation of Bladder, . .	1												1					1
	10	2	1		1				2		3	2	3					12

8. *Organs of Generation.*

	Male.	Female.	Under 1 yr.	1 to 2.	2 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	80 to 90.	90 to 100.	100 to 110.	Total.
Cancer of Uterus, ...		2										2						2
Convulsions, Puerperal, . .		1								1								1
Disease of Ovaries, ...		1								1								1
Hemorrhage from Uterus, . .		1								1								1
Inflammation of Uterus, . .		4							2	2								4
Puerperal Fever, ...		8							2	6								8
Rupture of Uterus, ...		1								1								1
		18							4	12		2						18

9. *Organs of Locomotion.*

	Male.	Female.	Under 1 yr.	1 to 2.	2 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	80 to 90.	90 to 100.	100 to 110.	Total.
Caries, ...	1	1								2								2
Disease of Spine, ...	2					1						1						2
Rheumatism, ...	2	4				1					1	2	2					6
Spina Bifida, ...	1		1															1
	6	5	1			2				2	1	3	2					11

10. *Integumentary System.*

	Male.	Female.	Under 1 yr.	1 to 2.	2 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	80 to 90.	90 to 100.	100 to 110.	Total.
Carbuncle, ...		1							1									1
Lupus Exedens, ...	1											1						1
Purpura Hemorrhagica, . .	2	1	1	1	1													3
	3	2	1	1	1				1			1						5

11. *Old Age.*

Old Age, ...	13	27											2	8	22	7	1	40

12. *External Causes.*

	Male.	Female.	Under 1 yr.	1 to 2.	2 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	80 to 90.	90 to 100.	100 to 110.	Total.
Asphyxia,	3	8	9							2								11
Burns,	5	16	2		6	6			3	1	2	1						21
Casualties,	24	7	2	1		1	3	1	5	10	5	2	1					31
Drowned,	10	2				1		3	4	2	1	1						12
Exhaustion,	1	1	1										1					2
Fracture of Skull,	1								1									1
Intemperance,	1	4							3	2								5
Poisoning,	2										1	1						2
Suffocation,	3	2			2	1				1		1						5
Suicide,	11	2						1	2	3	4	2	1					13
Violence,	4							2	1		1							4
	65	42	14	1	8	9	3	7	19	21	14	8	3					107

Still Born,	78	67	145															145
Unknown,	48	31	27	1	3				6	13	9	10	6	3		1		79

TABLE No. 3.

Deaths for the Fourth Quarter of 1856, *at fifteen distinct periods of life.*

Under 1 year,	569
1 to 2,	302
2 to 5,	501
5 to 10,	229
10 to 15,	46
15 to 20,	73
20 to 30,	258
30 to 40,	249
40 to 50,	177
50 to 60,	151
60 to 70,	122
70 to 80,	93
80 to 90,	53
90 to 100,	13
100 to 110,	1
	2837
Still born,	145
Total,	2982

Of the above deaths there were 122 from the Blockley Almshouse; from the Colored Population, 148; from the Country, 26; from the County Prison, 3; and from the Pennsylvania Hospital, 12, as follows:

	October.	November.	December.	Total.
Almshouse, ...	36	57	29	122
Blacks, ...	41	65	42	148
Country, ...	10	4	12	26
County Prison, . .	1	1	1	3
Pennsylvania Hospital, .	5	1	6	12
	93	128	90	311

TABLE No. 4.

The following table gives the number of deaths for each week during the quarter, together with the sexes, the adults, and children.

	Male.	Female.	Adults.	Children.	Total.	Monthly Total.
1856. From Sept. 27th to Oct. 4th,	104	98	88	114	202	
" Oct. 4th to Oct. 11th,	91	109	99	101	200	
" Oct. 11th to Oct. 18th,	87	79	70	96	166	
" Oct. 18th to Oct. 25th,	88	79	69	98	167	
" Oct. 25th to Nov. 1st,	98	87	76	109	185	920
" Nov. 1st to Nov. 8th,	114	99	82	131	213	
" Nov. 8th to Nov. 15th,	109	112	71	150	221	
" Nov. 15th to Nov. 22d,	67	125	70	122	192	
" Nov. 22d to Nov. 29th,	119	113	81	151	232	858
" Nov. 29th to Dec. 6th,	132	100	80	152	232	
" Dec. 6th to Dec. 13th,	115	118	78	155	233	
" Dec. 13th to Dec. 20th,	101	121	75	147	222	
" Dec. 20th to Dec. 27th,	148	121	99	170	269	
" Dec. 27th to Jan. 3d, 1857,	116	132	80	168	248	1204
Totals,	1489	1493	1118	1864	2982	2982

ANNUAL MORTALITY OF PHILADELPHIA FOR 1856.

In collecting and arranging the deaths, with their several causes, which have taken place in our city during the past year, as well as in comparing them with the deaths for a series of years, both here and elsewhere, it becomes a cause for regret, that the mortuary record preserved at the Health Office is so barren of interest. An examination of this record will furnish only the name, age, sex, and disease of the deceased, with the name of the physician who gives the certificate of death. The particular residence, the occupation, and the nativity of those who die, are seldom if ever entered upon the face of the certificate, and hence are lost to the statistician, the sanitarian, and the political economist. These items contain facts and information which are indispensable, in order to determine with any degree of accuracy whatever, the sanitary and mortuary condition of all classes of our citizens, or the salubrity or unhealthiness of the several wards or districts of our metropolis.

If, as has been wisely observed, the prosperity of a people is indicated by their degree of public health, and that "public health is to the masses what personal health is to the individual," then it must be obvious, that the importance of having correct statistics of the health of every community is inestimable. But to secure this information, it becomes necessary to know not only the annual death-rate to the population, but to be familiar with those districts which suffer unusual mortality, and all those physical and moral causes which constitute the chief sources for disease and death.

Nothing less than a model system of registration of deaths can possibly answer for the effectual accomplishment of an object so desirable. Until this is secured, our Reports of the Annual Mortality of Philadelphia will be wanting in those essentials which alone can render them truly valuable.

We have faith, however, to believe, that our own State, though at present far behind several others in legislative enactments for the protection of life, will not be willing to remain long in the rear on this question; and that the day is not far distant when we shall witness a marked change—when the authorities, guided by the results of sanitary legislation in other States, will awake to their true condition, and petition for a code of laws to meet those sanitary requirements which otherwise can never be realized: a code of laws, which, when enforced, will secure the blessing of health to thousands, improve the social condition of a large but now too often dependent population, and at the same time lessen sensibly the annual rate of mortality. A well-defined registration law is the first step in this reform.

According to the quarterly tabulated records, which have appeared in the Medical Examiner, the whole mortality in Philadelphia for the year 1856 has been 12,334, as follows:

1st Quarter, . . .	2810	3d Quarter, . . .	3971
2d Quarter, . . .	2571	4th Quarter, . . .	2982

This amount shows an increase of 8·23 per cent. over the mortality for 1855.

If the population of our city is 550,000,* the deaths have been one in every 44½, or to each thousand of the population, 22·425.

The average monthly mortality was 1027$\frac{10}{12}$ths, while the highest number of deaths in any one month, 1796, occurred in July, and the lowest number, 736; in May.

The average deaths per day from Dec. 29th, 1855, to Jan. 3d, 1857, or 370 days, has been 33·33.

The following table designates the deaths during the year, at sixteen different ages:

---

* By many it is thought to be 600,000.

Under 1 year,	2938
1 to 2,	1391
2 to 5,	1629
5 to 10,	667
10 to 15,	228
15 to 20,	325
20 to 30,	1176
30 to 40,	970
40 to 50,	686
50 to 60,	580
60 to 70,	478
70 to 80,	390
80 to 90,	204
90 to 100,	56
100 to 110,	3
110 to 120,	1
	11,722
Still born,	612
Total,	12,334

It will be seen, that this division of deaths, at the several periods of life, as designated, does not include all that have been born, but those only who were born alive. Hence the calculations have been based upon this estimate, and do not embrace the still born, which amounted to 612.

This analytical table exhibits a single fact, that should not go unobserved, viz., the large proportion of deaths during infancy, when compared with the mortality in adult life.

The proportion of deaths in children under one year, is almost double that of any other stage of life, amounting to 2938, or 25 per cent. of the entire mortality.

Those under five years amounted to 5968, nearly equal to 51 per cent. of all the deaths.

Calculating the population of our city under five years of age to be in proximity to 54,000, then the ratio of mortality has been about one in every nine.

The deaths under twenty were 7178, equal to 58·19 per cent. of all the deaths during the year.

From twenty up to one hundred and twenty years, constituting adult life, there were 4544 deaths. Of these, 1176 were between twenty and thirty years. From this period there is a gradual decrease up to extreme old age.

654, or 5·57 per cent. of the annual mortality, had passed the seventieth year; three of whom were centenarians, and one had lived beyond the one hundred and tenth year.

The following tabular statement furnishes a synopsis of those diseases which have been most fatal for the past nine years.

	1848	1849	1850	1851	1852	1853	1854	1855	1856
Cholera Infantum, . . .	454	582	505	397	329	398	715	566	722
Consumption of Lungs, .	965	939	907	881	1204	1246	1394	1327	1501
Congestion of Brain, . .	85	91	97	130	120	172	222	175	177
Convulsions, ...	401	415	444	479	499	543	695	626	603
Croup, ...	177	130	143	180	208	303	304	265	268
Diarrhœa, ...	122	225	208	157	156	130	219	177	149
Dropsy of Brain, . . .	220	237	283	245	247	192	299	254	242
Dysentery, ...	315	578	421	401	558	379	446	266	301
Inflammation of Brain, .	186	198	218	202	258	157	362	288	329
“ “ Bronchi,	172	169	191	175	208	197	243	233	250
“ “ Lungs, .	265	273	352	352	444	353	472	442	379
Marasmus, ...	237	264	217	255	354	376	457	441	484
Scarlet Fever, ...	172	242	439	400	433	391	165	163	992
Small-Pox, ...	100	152	40	216	426	52	40	281	390

With but four exceptions, all the diseases enumerated in this table show an increase of deaths over those for the preceding year. Indeed, several of them, as Cholera Infantum, Consumption of the Lungs, Congestion of the Lungs, Marasmus, and Scarlet Fever, present an increase over any year since 1848.

The increase of deaths from Cholera Infantum over those of 1855 is equal to 12·11 per cent.; but compared with the preceding year, 1854, it gives nearly the same aggregate. Consumption of the Lungs furnishes 1501 deaths, or about 12·83 per cent. of the entire mortality, throwing out the still born. To the population, it is as one in every 366½, and to each thousand as 2·72. Throughout the year the mortality from Consumption appears to have had but little variation, every month furnishing its victims to this insatiable disease. The 4th quarter of the year shows the fewest deaths, and the 1st quarter the largest number. During the last nine years, 10,364 deaths have occurred in our city from this disease.

Scarlet Fever contributes 992 of the deaths for the year, rising one-twelfth of the entire mortality, or nearly one-seventh of all the deaths under twenty years of age.

This disease has never prevailed as an epidemic to the same extent in our city, if the mortality is any evidence of its prevalence. In the last three months of the year there were 438 deaths, equal to 4½ deaths per day. It has been with us a subject of inquiry to ascertain what particular sections of our city were more devastated by this terrible epidemic than others; the most reliable information we can secure induces us to believe that Kensington East and West, and those densely inhabited portions of the city between Broad Street and the Schuylkill River, suffered to a very large extent. As usual, the children of the working-classes, and those of the German population, especially in the upper sections of the old Northern Liberty district, suffered severely. At the same time it must be conceded, that the offspring of the better classes, and of our wealthier population, were by no means exempted.

That period of infancy which suffered the most by death was between the ages of two and five years.

For the past eight years, the deaths from Scarlet Fever in this city have numbered 3397.

The deaths from Small-pox have amounted to 390. 76 per cent. of this mortality was in children, or those classed under twenty years of age,—an evidence of the inefficiency of our municipal system for vaccination.

Of the above deaths from Small-pox, 238 took place in the early part of the year, and before the 1st of March, since which date they have been rapidly declining. During the last quarter of the year there were only 25 deaths.

The following tabular statement shows the mortality for the year as classified, together with the rate of percentage to the whole number of deaths, and the number in every thousand of the population, estimating the population as 550,000.

	Yearly Mortality.	Per cent. of Deaths.	Number per thousand of population.
1. *Endemic and Contagious Diseases:*			
Zymotic or Epidemic, ...	3595	24·19	6·536
2. *Uncertain or General Seat:*			
Sporadic Diseases, ...	1733	14·05	3·150
3. Nervous System, ...	1944	15·76	3·534
4. Organs of Respiration, ...	2470	20·02	4·490
5. " Circulation, ...	267	2·16	0·480
6. " Digestion, ...	548	4·43	0·996
7. Urinary Organs, ...	51	0·41	0·092
8. Organs of Generation, ...	117	0·94	0·212
9. " Locomotion, ...	51	0·41	0·092
10. Integumentary System, ...	31	0·25	0·056
11. Old Age, ...	172	1·39	0 313
12. External Causes, ...	486	3·94	0·883
Still born, ...	612	4·96	1·112
Unknown, ...	257	2·08	0·467

From this table it will be seen, that those diseases which properly belong to that class designated "Endemic and Contagious," and by all sanitarians looked upon as preventible or dependent upon causes that are either removable or capable of mitigation by a thorough system of sanitary police, rate higher by nine per cent. than the highest number of deaths in any other classification. The deaths from diseases of the organs of respiration are set down at 2470, equal to 20·02 per cent. of the mortality. Of these deaths, Consumption of the Lungs contributes 1501, or 60 per cent. of the whole, and if deducted therefrom, leaves the mortality less than 1000.

The diseases of the Nervous System give 15·76 per cent., and those of uncertain seat 14·05 per cent.

The Still Born furnish 4·96 per cent. of the mortality, while External Causes contribute 3·94 per cent.

The deaths monthly, and according to the sex, have been as follows:

Month.	Male.	Female.	Total.
January,	573	533	1106
February,	423	438	861
March,	447	396	843
April,	548	504	1052
May,	357	379	736
June,	415	368	783
July,	961	835	1796
August,	696	615	1311
September,	450	414	864
October,	468	452	920
November,	409	449	858
December,	612	592	1204
	6359	5975	12,334

The disparity between the deaths in the male and female sexes, as exhibited by this statement, is not as great by one-half as is usually presented. Here, the excess of the male deaths over the females is but 3·11 per cent., while last year, and for several previous years, it ranged over 6 per cent.

During the year, the Almshouse furnished 604 of the deaths, the colored population 605, the Pennsylvania Hospital 46, and the County Prison 14, while 132 are noted, as having been brought into the city for burial, from other places.

The tabulated mortality of our city, which has been compiled from the record, is only an approximation towards the actual number of deaths from disease. Taken in the aggregate, we have credit for a much larger amount than has really existed. Nor is this peculiar to our own city, as we find that in estimating the annual deaths in other large cities, the calculations are generally based on the total of deaths, without particular reference to causes.

A careful analysis of the tables in the present instance, will show that 2167, or 17·56 per cent. of the deaths do not properly belong to the mortality from designated disease, and that, in estimating the comparative health of the city, the deaths from these causes should be deducted. They stand as follows:

External Causes,	486	Still born,	612
Old Age,	172	Unknown,	257
From Country,	132	Debility,	430
Cyanosis,	54	Malformation,	24

By this deduction, we reduce the annual city mortality to 10,177, thus making the deaths from disease to population as 1 in every 54, instead of 1 in 44½, and as 18·503, in place of 20·606 in every thousand.

Without the deductions we have proposed, our city will compare for health with any other large city in the United States—the death-rate being less, whether among children or adults.

ART. III.—*Case of Popliteal Aneurism treated by Compression.* By T. P. GIBBONS, M.D., of Philadelphia.

THE treatment of aneurism by compression, having recently attracted much attention both in Europe and in this country, I propose to lay before the profession the details of a particularly aggravated case that occurred in this city three years ago. I am inclined to the opinion that the subject is deserving of more attention than it has received from surgeons generally; and should the results of the operation, upon further trial, prove it to be only occasionally successful, but much less hazardous than that of ligature of the artery, a great desideratum will be supplied.

On the 23d of February, 1853, I was requested to call upon H—— B——, of this city, whom I found confined to his bed, complaining of pain and swelling of the knee, which he supposed to be caused by an attack of acute rheumatism, from which he had frequently suffered. Upon examining the part, I discovered a pulsating tumor, the size of an orange, occupying the popliteal space. The leg and foot were œdematous to a considerable degree, and the patient was unable to move the limb without assistance.

From the patient I learned the following history: He had been engaged for some years as a hotel-keeper in California, from whence he had removed to the Isthmus of Panama, to continue the same business. After a few months' residence at the latter place, during all of which time he was addicted to the excessive use of alcoholic stimuli, he contracted "Chagres Fever," from which, after a protracted illness, he partially recovered; but being disabled in finances and incapacitated for business, he concluded to return to Philadelphia, his original home. Shortly after his arrival, he determined to abandon the entire use of all stimulating liquors, a determination to which, he says, he has rigidly adhered.

Some two weeks ago, whilst engaged in closing the doors of a vault, which had become swollen by the rain, by jumping upon them, he felt "something give way in the knee." The pain which followed was slight, and gave him no great uneasiness until some days afterwards, when the knee began to swell and became very sensitive. But supposing the trouble to be owing to rheumatism, he applied the remedies which he usually resorted to in such cases, but without effect. The pain and swelling continuing to increase, he has been compelled for the past few days to keep his room.

Being satisfied of the existence of aneurism, I requested a consultation, which was had the following day, February 24th, with Dr. Pancoast. Upon careful examination, we discovered a tendency to ossification on the part of the arteries, very manifest in the radial; also, an obstruction at the mouth of the aorta, giving rise to a marked bruit de souffle, and consequent dilatation of the heart.

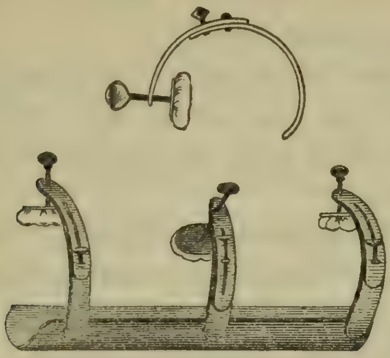
Under these circumstances, the operation for ligature of the femoral artery was considered inapplicable, and compression was determined upon. The patient complaining very much of severe neuralgic pain in the limb, a lotion of extract of lead and laudanum, each an ounce, to a pint of water, was applied warm to the part, which was bandaged from the toes upward to the middle of the thigh, and an anodyne mixture administered.

A proper instrument for compressing the artery not being at hand, some days elapsed before it could be procured, during which time no visible augmentation was manifest in the tumor.

March 1st.—Applied compression to the femoral artery at the inferior angle of Scarpa's triangle, by means of Skey's tourniquet, with instructions to the attendant to change the pressure to different points, according as it could be best borne. This was continued at intervals of two or three hours at a time, for twenty-six hours, when the tumefaction of the limb was so great that it was thought advisable to remove the instrument altogether. The pain, which had been very severe during the application of the instrument, became excruciating after its removal. Morphia was freely administered until four grains were taken in twelve hours, without producing the slightest tendency to drowsiness, and but partial relief of the neuralgic symptoms.

On visiting him on the evening of the 3d, I was informed that he had been delirious during the afternoon, and evidences of delirium tremens were then quite apparent. I directed an ounce of brandy to be given every hour, which, after three or four repetitions, had the effect of quieting him, when he enjoyed a few hours of broken sleep. Finding that the brandy gave more relief than anything previously tried, he resorted to the very free use of it, taking about *five pints* in forty-eight hours, during which time his condition would not admit of a reapplication of the pressure. The unsatisfactory operation of the tourniquet led me to devise the instrument here represented, which was manufactured by J. H. Gemrig, cutler, of this city.

A piece of sheet iron, curved to fit the posterior surface of the thigh, and well cushioned, forms the base of the instrument. To this, three clamp tourniquets are attached by their inferior extremities. The shaft of each tourniquet is provided with a slide, so that it can be lengthened or shortened at pleasure, and fixed at any point by means of a thumb-screw. When the instrument is in place, the pads of the three tourniquets rest immediately over the femoral artery, and by turning the screw of any one of them, the vessel is compressed against the femur. But one tourniquet is intended to be used at a time, and when the pressure exerted by this becomes too painful to be borne, either one of the others may be screwed down before relaxing the one last employed. The tourniquet pads are purposely made small, in order to avoid pressure upon the femoral vein, if possible.



March 6th.—Was summoned at 1 o'clock, A.M., and found patient delirious; directed the use of brandy to be suspended, and to give an enema of forty drops of wine of opium in an ounce of starch water, to be repeated in two hours, in case he did not sleep.

9 A.M.—Found patient somewhat relieved, but still slightly incoherent; had slept some since the repetition of the enema; directed half an ounce of liq. ammon. acet., with five grains of carb. ammon., every two hours, and at each intermediate hour eight ounces of porter; œdema of the limb slightly diminished.

1 P.M.—Consultation with Dr. Pancoast; patient somewhat easier; continue prescription; applied bandage to the limb, and adjusted the new instrument.

10 P.M.—Complains greatly of pain; compelled to remove the pressure and to bandage the limb, which is much swollen, measuring twenty-one inches in circumference at the site of the tumor; applied locally spt. camphor with chloroform.

March 7th.—Slept some last night after enema of one drachm wine of opium; swelling still continues, precluding the application of the instrument; persevere with the ammonia mixture and porter.

March 8th.—Complains this morning of his mouth feeling dry and parched. Bowels not having been moved for some days, a stimulating enema was given, after the operation of which he was much relieved. The swelling having greatly subsided, the instrument was reapplied, which he bore tolerably well for eight hours. On its removal, the swelling returned; but not to so great an extent as formerly. Pain very severe, and not yielding to the means previously employed; directed sulphuric ether, by inhalation, which had a very salutary effect.

March 10th.—The pain much relieved, and swelling abated. Applied instrument, which was worn most of the day. In the evening, had a violent attack of the neuralgic pain, to quiet which, was compelled to produce complete anæsthesia.

March 11th.—Met Dr. Pancoast this morning. Ordered the use of carb. ammonia and porter to be suspended; continue spt. mindereri, and take a glass of brandy and water occasionally; anodyne injection at night.

March 14.—Has worn the bandage constantly, and had the pressure applied from four to eight hours a day, since the 11th. Tumor hardening, and the force of the pulsation much diminished; appetite pretty good; general health much improved.

From this date, the case progressed favorably. The tumor diminished in size from day to day, although the pressure was not kept up longer than eight hours out of the twenty-four; and upon some days the patient could not be prevailed upon to wear the instrument at all.

On the 29th, the limb measured, around the knee, fifteen and a half inches; but still a perceptible thrill within the tumor. The patient being unwilling to remain longer in bed, an elastic knee-cap was applied, and, with the assistance of a crutch, he moved about the house. At the end of a week, spent in this manner, although his general condition was much improved, there was a manifest increase in the force of the pulsation within the tumor, particularly upon the cardiac side.

Upon the 7th of April, I prevailed upon him to take to his bed again, and permit a reapplication of the pressure. The instrument was then worn, steadily, for seventy-two hours; at the end of which time, upon removing it, I had the satisfaction of finding that the pulsation had entirely ceased; since then it has not reappeared. The limb, at this time, measured in circumference but two inches more than the other.

In two weeks from the last date, he was able, with the assistance of a crutch and walking-stick, to walk to his place of business, a distance of about a quarter of a mile. His employment was such that he could sit most of the time with the limb elevated. Some œdema of the foot and ankle usually took place in the after-part of the day, which, however, generally subsided at night. Complained of numbness on the dorsum and outer side of the foot, which continued to trouble him, more or less, during the greater part of the following summer. I saw him occasionally afterwards. The limb gradually recovered strength, as the circulation became more perfect.

December 12*th*, 1854. Saw my patient this morning, and made a careful examination of the limb. With the exception of a little thickening of the tissues within the popliteal space, not the slightest trace of the original tumor can be detected. He is, so far as the aneurism is concerned, quite well.

ART. IV.—*A Case of Hooping-Cough attended with peculiar Symptoms; with Remarks.* By CHAS. A. HENTZ, M.D., of Marianna, Florida.

March 15, 1855.—I was called to see Miss E. B. A——, æt. 11½ years, a well-developed and very intelligent child, whose general health has always been good. Though her mother has always regarded her as delicate, she has never been sick but once, *i. e.* at two years of age, when she had a light attack of measles.

For several days she has been suffering from languor and want of appetite, with constipation of the bowels; and complaining of pain and stiffness in the left side of the neck, behind the mastoid process. She has also had a cough recurring occasionally with considerable violence, but with no hoop, and attended with a moderate mucous expectoration.

The hooping-cough has been prevailing in the family for some time; she has never had it, and has not suffered from any of the initial catarrhal symptoms. The cough just mentioned has existed only a few days.

She remained in bed this morning, and the family were much alarmed to find her in a very strange condition of mental incoherence. She lies uncomplainingly, and sleeps very quietly most of the time; is easily aroused, and looks up with a smile of intelligence, but seems to fail utterly to comprehend the questions asked her. She says "Sir," promptly, when called by name, but to every question she returns the one answer, "It hurts," applying her hand at the same time to the left parietal region.

Her tongue is heavily covered with a thick, smooth, dark yellow coating, and her breath is excessively offensive. Her bowels have been, as I have said, torpid; a dose of calomel, given twelve hours ago, has operated twice, the stools being very offensive, semi-consistent, and very black; her skin is soft, moist, and pleasantly warm; pulse soft and natural in frequency; breathing perfectly quiet and regular.

Not being able to make out a satisfactory diagnosis as to the encephalic disturbance, I prescribed only for the gastric derangement. I gave a dose of calomel, rhubarb, and jalap, which she vomited immediately. This was followed by 8 grs. of calomel, which she retained; and I directed an enema of starch, with 25 drops of spirits of turpentine, to be administered every 4 hours. I also left, for the cough, an expectorant mixture, composed of syr. squills, wine, and ipecac., and sol. sulph. morph.

16th.—Condition unchanged; two alvine evacuations passed during the night, of the same character as those reported yesterday. The cough is ameliorated by the use of the expectorant.

I gave calc. magnesia, ʒss; pulv. rhei, grs. viij; and directed calomel, gr. ij, and ipecac. gr. ss., to be given every two hours; the turpentine enema every six hours.

17th.—In the same condition; bowels moved only as yesterday. I discontinued the calomel, placed a blister over the epigastrium, repeated the cathartic, and continued the expectorant.

18th.—In the same condition. I applied two cups on the left side of the neck, under and behind the mastoid process, and followed them with a blister to the same place; repeated the cathartic, and continued the expectorant.

19th.—The parents report this morning that about 3 o'clock, during the night, she exhibited symptoms of prostration and impending dissolution, her pulse becoming weak and feeble, the surface cool, and breathing gasping and labored. With friction and warmth to the surface, she soon rallied from this condition.

I find her this morning much more dull and languid; there is a very marked dulness or disability of motion about the right side of the body; the tongue is thrust out with difficulty. She still says "it hurts," and applies her hand to the left parietal region; her cough is the same; discharges from the bowels unchanged in character, and only dejected after the admistration of cathartics.

I prescribed strychnia, gr. j; alcohol, ʒiij; sp. lav. comp. ʒj; and directed a dose to be given every three hours, beginning with 5 drops, and increasing one drop at each dose until 8 are given; the effects to be carefully watched. Finding also the fourth and fifth cervical vertebræ tender on pressure, I extended the blister over this region.

20th.—I was pleased this morning to find a very decided change for the better. The phenomena, reported by the family as occurring during the night, are as follows: after taking the third and fourth doses of the strychnia, she began to complain of soreness over the whole of the right side, and started in sleep whenever touched on that side; the soreness seemed to become general in a few hours, and equally marked on both sides. This was distinctly observed by all the attendants, and reported without any prompting on my part.

The difficulty of motion on the right side and of protruding the tongue has all passed away. She answers correctly all questions put to her, though she seems unwilling to talk much; she asks for water, and has called for her pet kitten; and, most interesting of all, she has had several very violent paroxysms of hooping-cough.

She improved steadily. The cough, for the first few days, was attended with an abundant mucous expectoration, and the hooping was excessively violent. The evacuations from the bowels became healthy in appearance, and the tongue cleaned entirely by the 22d. The strychnia was continued for a few days, in the dose of 8 drops every 4 hours.

On the 23d, her parents discovered accidentally that she had forgotten how to read. Though she read very fluently before her illness, she now spelt words slowly and with difficulty, and pronounced and connected them as lamely as if she were just beginning to learn. As she recovered her health, however, her knowledge of reading returned gradually and spontaneously; and from the date of her recovery, a new impetus seemed given to her growth and development.

The phenomena presented by the above case are exceedingly interesting, and seem to me to throw much light upon the mooted subject of the pathology of hooping-cough. Without enumerating the different theories that have been advanced upon this subject, it will be sufficient to observe that the pathological condition clearly indicated in the symptoms of this case is precisely the reverse of that which is supposed in the theory advanced by Desruelles, and held by many, *i. e.* that the disease is at first inflammatory and afterwards spasmodic; that bronchitis is always primitive; cerebral irritation consecutive.

In this case the disease certainly exhibited itself as a cerebral irritation primarily; functional disturbance in the medulla oblongata and cerebral hemisphere on the left side, manifesting itself in the symptoms described, viz., pain and stiffness in the left side of the neck; pain in same side of the head; disturbance of the mental faculties; torpor of the liver and of the gastric function; and, at a more advanced stage, dulness of motion on the right side of the body, and increasing general disability. The normal development of this irritation would have been in the establishment of an excentric irritation in the distribution of the pneumogastric nerve, in the form of hooping-cough; but, from some unknown condition of the system, this was hindered, and the consequence was the above train of concentric phenomena.

The nervous lesion, whatever be its nature, that constitutes the *ipsissimus morbus* of pertussis, is such as, when not embarrassed or complicated by any other abnormal condition that the system may be in, finds a perfect relief in the establishment of the spasmodic cough. In this case the coincidence of complete and immediate relief of the cerebral symptoms on the establishment of the paroxysms of cough on the morning of the 20th, is most marked and decided—a free and sudden unlocking, as it were, of the barrier that was restraining the legitimate action of the *vis conservatrix*, and complete unmasking of the disease.

The arousing of sensibility on the right side of the body when the nervous energy was thus being awakened, is a very interesting and suggestive phenomena.

The connection between the administration of the strychnia and the establishment of these phenomena, is another highly interesting feature of the case. I had been induced to prescribe it on the preceding day rather empirically, in the hope that the nervous system might be aroused by the roborant qualities of the medicine, from the state of torpor and inaction into which it seemed sunk. The result certainly surpassed my expectations.

ART. V.—*Case of Complete Rupture of the Perineum, of Eighteen Years' Standing; Operation; Cure.* By B. F. TRABUE, M.D., of Glasgow, Kentucky.

IN the spring of 1856, I was called to see Mrs. E. L. K——, a married woman, æt. 35 years, who complained of distressing pain in the region of the bladder, and stated that she had suffered in this way for many years. Finding that I could gain no satisfactory information of the nature of the case by simply questioning the patient, I requested an examination, which being granted, a complete laceration of the perineum, involving both the external and internal sphincters, was revealed. Upon further inquiries, I learned that the accident had happened when she was but 17 years old, when she was confined with her first child, a midwife being in attendance. I explained to her, as well as I could, the actual condition of the parts, of which she seemed to possess a very imperfect idea; and proposed an operation as the only means of relief. To this she consented, confessing that the past eighteen years of her life had been a burden to her, and that without a prospect of improvement, she would much prefer to die. She is the mother of seven living children, and has had three abortions.

On the 13th of May, assisted by Dr. R. H. Grinstead of St. Louis, and Dr. J. B. Thomas, of this place, and in the presence of three ladies, who lent their aid as occasion required, I proceeded to operate. The bowels had been cleared about seven hours before by means of castor oil, and half an hour before the time appointed the rectum had been washed out with an enema of water containing a small quantity of salt.

The patient was placed in the usual position for lithotomy, and well secured to an obstetrical supporter, which is a capital apparatus, and I am not aware was ever before employed for this purpose. Chloroform was not administered, on account of her positive refusal to take it. The first step of the operation consisted in making two flaps, one from each side, about an inch in depth, and an inch and three-fourths in length, extending upward to the margin of the recto-vaginal septum, which latter was then made raw by paring it with the knife. Considerable hemorrhage ensued, but was sufficiently controlled by the application of cold water. I next introduced three double ligatures deep into the parts, entering the needle, each time, at least an inch from the margin of the wound. This was effected by means of a curved needle screwed on to a strong handle, the latter being detached at each introduction, and the former pulled through the parts by means of a pair of long forceps. The three ligatures were then tied over a piece of pipe-stem placed on each side of the wound, as in the usual manner of making the quill-suture. In this way the cut edges were brought in close apposition, but as a further security, I also made use of three superficial interrupted sutures, as advised by Mr. Isaac Baker Brown. Lastly, and also in accordance with the directions of Mr. Brown, I introduced a probe-pointed bistoury about an inch within the bowel, and divided the mucous membrane, skin, and anal sphincter on each side, carrying the knife deep in an outward and backward direction. Without this division of the sphincter, I am satisfied that the operation will seldom succeed.

A small teaspoonful of laudanum having been administered, and the vagina washed out by an injection of cold water, the patient was placed in bed upon her side, with her knees semi-flexed. The time consumed in the entire operation was just one hour.

I visited her six hours subsequently; found her tolerably comfortable; pulse 80; drew off the urine with a catheter; ordered diet consisting of corn-meal gruel, thin squirrel-soup, coffee, and tea; and prescribed 1½ gr. opium to be taken every eight hours.

14th, 9 A.M.; rested well last night; passed urine every eight hours by getting on hands and knees, following each evacuation by an injection of tepid water into the vagina; pulse 80.

The case continued to do well, the patient taking daily a liberal amount of whiskey and water, although heretofore unaccustomed to the use of the former. On the sixth day, I removed the deep sutures, and on the seventh the superficial ones.

On the eighteenth day, I examined the parts carefully, and found that they were firmly united, except at the bottom of the wound, where a small fissure still existed. Ordered ℥ij castor oil, to be followed by enemas of salt and water until free evacuation of the bowels.

During the operation of the medicine, a considerable portion of fecal matter entered the vagina; but the next day the fæces were more consistent, and by pressure made in front the whole passed through the anus.

The fistula subsequently closed without any special treatment, and now, Nov. 1st, the parts are perfectly sound.

It will be observed that for eighteen days this patient was not allowed to empty her bowels, and that no ill consequences resulted from their long confinement.

ART. VI.—*Reduction of a Femoral Dislocation, of Six Months' Standing, by Manipulation.* By MARTIAL DUPIERRIS, M.D., of Havana, Cuba.

SIR ASTLEY COOPER, in his surgical work, asserts it to be imprudent to attempt the reduction of a shoulder dislocation after three months, and of the hip after eight weeks, except in patients of very lax fibre or advanced age. But this great master admitted the existence of exceptions, and reported a case of dislocation of the head of the femur upon the dorsum ilii, reduced after the lapse of five years. The following case, although not very extraordinary, is instructive, as forming an exception to the rule laid down by authors of the highest standing.

The ship "Sword Fish," arrived at this port, on the 4th of June last, with a cargo consisting of three hundred and seventy-five Chinese colonists. Among the sick on board was a boy, about sixteen years old, called A-sin, who was taken to the infirmary. His skin was hot and dry; his tongue was parched; his pulse was very frequent and sometimes intermittent; he had a diarrhœa; and he lay upon his back with his thighs flexed upon the abdomen at a right angle, and his legs upon his thighs. He complained much of pain in the abdomen, and of excessive thirst. Our interpreter not understanding the patient's language very well, we deferred any further examination, hoping to procure shortly some one who could obtain from him a reliable history of the case. In the meantime treatment was ordered with a view to subdue the febrile action, and arrest the gastro-intestinal disorder.

After a month's careful attention, the fever was broken, but returned at irregular intervals in the form of short paroxysms, characterized by heat and perspiration; and the diarrhœa and intestinal irritation had entirely disappeared. Upon now being requested to get out of bed, he replied that it was impossible; and when he was lifted up by two nurses, he cried out with pain. I now discovered that when he was held in the erect posture, only the right foot touched the floor, the left being raised to the distance of seven centimetres; that the toe of the latter and the corresponding knee were inverted; and that his cries resulted from pain, produced by the nurse in an effort to make the left foot rest upon the floor. The peculiar deformity of the limb led me at once to suspect the existence of a coxo-femoral dislocation, and, upon farther examination, my suspicions were confirmed by finding the head of the left femur upon the corresponding dorsum ilii.

Upon questioning the patient, through a new interpreter, in regard to the cause of the accident, I learned that before leaving China, while carrying two buckets of water suspended from the extremities of a pole placed across his shoulders, he slipped and fell upon his left side; that, being unable to rise, he was carried to the trading house, where he was treated by a native physican, and, after several days, was able to walk with a stick, without being able, however, to get his foot to the ground. After going on board the vessel, his sufferings increased, and he was obliged to keep upon his back during the entire voyage. In the meantime, he lost his appetite, and his bowels became deranged.

I have already described the condition of the patient upon his arrival in this country. It only remains to state, that by the time I succeeded in arresting his fever and diarrhœa, he was extremely emaciated, and his muscular system very much enfeebled.

It was now the early part of July, and I determined, after a careful consideration of the case, to attempt the reduction; at the same time, I was fully aware that, in order to compel the head of the bone to abandon its new position, to break up the adhesions which held it fast, and, finally, to replace it in its original situation, it was necessary to employ an amount of force, which seemed hardly justifiable in a constitution so debilitated. I appreciated the danger, and also the necessity for action; for the constant pain, augmented by the least movement, would have undoubtedly brought on a marasmus, terminating sooner or later in death.

The permanent contraction of the surrounding muscles, almost universally present under similar circumstances, was wanting in this case: as before stated, they were all in a flaccid condition, except the great gluteal, which was painful to the touch. The limb was somewhat more emaciated than its fellow of the opposite side, owing doubtless to the obstruction to the circulation and enervation, produced by adhesions of the vessels and nerves in their unnatural situation.

I did not think it prudent to submit the patient to the action of chloroform or ether, owing to his feeble condition, but was obliged to operate without the aid of these valuable means. The following was the method pursued:

The body being held by two assistants by means of two bands, one of which passed beneath the perineum, and the other under the axillæ, traction was made upon the limb by two strong and intelligent assistants. The movement of the head of the bone, resulting from this manœuvre, was very limited, even when the force was much increased; and the excruciating pain, which the patient referred to the iliac region, compelled us for the moment to desist.

The following day, the patient having obtained a tolerable night's rest by means of a narcotic potion, I concluded to attempt the reduction by flexion, believing that I could thus better prevent any accident which the necessary force might produce; the operator, in adopting this method, having it in his power to follow the head of the bone by pressure upon it with the hand, aiding its movement in the proper direction, or correcting any deviation that may occur. The emaciated condition of the boy was eminently favorable for such a procedure.

The patient being placed upon his back, and the trunk of the body made steady by assistants, with the left hand I grasped the upper part of the leg, placed the right hand upon the head of the bone in the iliac fossa, and then proceeded to flex the leg upon the thigh, and the thigh upon the pelvis. By this movement the great gluteal muscle was relaxed, and the head of the bone advanced, while with the right hand I directed the latter toward the cotyloid cavity. As soon as I judged the head to be immediately above the centre of the socket, I extended the leg, the thigh remaining flexed at a right angle; and then using the limb as a lever, I rotated it from within outward, and at the same time extended it by making a movement of circumduction in a similar direction. When by these procedures the limb was brought near to its opposite fellow, a snap, audible to the assistants, and of a deeper character than is ordinarily observed in the reduction of recent dislocations, indicated the return of the head of the bone to its natural position; a fact which was farther substantiated by the establishment of the original length and form of the member and the subsidence of the pain.

The after-treatment consisted in placing a pad between the knees, and another between the internal malleoli, and confining the limbs together by two bands, one above the knees, and the other around the lower part of the legs. But in spite of these precautions to prevent redisplacement, the next morning I found that the dislocation had been reproduced. It was again reduced, but for three successive days there was a redisplacement. After this, however, the head of the bone kept its place; passive motion was daily employed, and all suffering ceased. After twenty days of rest, and a liberal use of the lactate of iron, the patient was allowed to get up; and, being provided with a pair of crutches, upon which he exercised himself daily, improved very rapidly. The muscles gradually recovered their bulk and vigor; and at the end of forty-eight days he was enabled to walk without crutches, although with some fear of falling. About the middle of August, he was put to work in a cigar manufactory, and has continued well ever since.

Remarks.—Sir Astley Cooper remarks, that a surgeon should carefully consider before deciding to attempt a reduction of an old dislocation, especially in a young man. As a general rule, the following conditions are recognized as favorable to the operation. First, that the head of the bone is movable, as may be ascertained by making direct pressure upon it, or by moving the limb in various directions; secondly, that the situation of the head is such as to admit of subcutaneous incisions of the adhesions, if this should become necessary; thirdly, that the acetabulum is proved to be empty; fourthly, that the limb is shorter than its fellow; and, lastly, that the patient's general health is good. In the absence of any of these conditions, surgical authorities advise us against any violent attempt at reduction. In the case above reported, it was impossible to prove, whether or not, the cavity of the acetabulum was filled up, although I made the most careful examination; and as to the mobility of the head of the bone, the intolerable pain which accompanied the manipulations, enabled me to obtain this only to a very limited degree; moreover, the patient's constitution was in a very debilitated condition. Notwithstanding, however, these adverse circumstances,—circumstances which, we are advised to consider as forbidding any attempt at reduction,—I felt compelled to act, resting my judgment upon the fact, that the principal cause of the patient's rapidly failing health was the displacement of the bone. The result of the case proved the correctness of my opinion.

In reference to such cases, I have always adopted, as a diagnostic rule, that, so long as acute pain continues to be felt during movements of the limb, the great probability is, that the work of new formation is not complete, and, therefore, the cavity of the acetabulum not entirely obliterated. This circumstance was present in the foregoing case, and, as I considered the suffering as the cause of the patient's debilitated condition, it was my duty to remove the cause if possible. Besides, it was possible, indeed likely, that the enfeebled state of the system had delayed the formation of adhesions and a new cavity, and the contraction and transformation of the surrounding muscles. In proof of the latter, I need only refer again to the statement already made, that all the surrounding muscles, except the great gluteal, and, possibly, the triceps, were flaccid, and devoid of contractility; while, on the contrary, in the iliac region there was acute pain, with increased heat, discoloration, and tension of the skin, indicating the presence of inflammation, which sufficiently accounted for the fever sometimes observed. And it is reasonable to suppose, that, if the patient had not observed perfect rest, the increased pain would have given rise to more frequent exhibitions of fever. Thus, having discovered that the only point at which inflammation existed, corresponded to the situation of the head of the femur, it was natural to suppose, that the close contraction of the great gluteal muscle upon this foreign body was due to an effort of nature to get rid of the latter. The indication, therefore, seemed to be to aid, rather than to supplant the natural powers; but the contraction of the muscle upon the neck of the bone had produced an opposite effect, and it was necessary, therefore, to relax it, in order to remove the head from its abnormal position. For this purpose, I resorted to flexion of the thigh, seeing that traction upon the limb only increased the difficulty.

It is generally believed that no noise accompanies the reduction of an old dislocation, but in the foregoing case the sound was deeper than usual, and loud enough to be heard by all the assistants.

As soon as the great gluteal muscle was relaxed, the pain was much diminished; and when the bone entered the socket, the patient exclaimed that he was cured, and expressed a desire to get up immediately. But notwithstanding the relief thus suddenly obtained, the cure was by no means complete, for the muscles and ligaments, torn by the dislocation, had not the power to retain the head of the bone in its place, and hence the necessity for subsequent quietude of the limb. But with an impatient boy, tired of a six months' confinement to bed, this was no easy matter; and after several redisplacements and reductions, I determined to let him suffer a while, in order to impress upon his mind more forcibly the necessity of keeping quiet. The hope of accomplishing a perfect cure was, however, much increased by the greater ease with which each successive reduction was performed. Indeed, the last time that I had occasion to perform the operation, the reduction was accomplished by simply pushing the head of the bone back into the socket.

In conclusion, I may be permitted to state, that the period within which an old dislocation may be reduced cannot be fixed *a priori;* for some cases, which cannot be remedied by one method, may perhaps be by another. I would say that, so long as there is decided pain in the situation of the displaced bone, it is justifiable to attempt reduction; for the existence of pain indicates that the process of filling up the natural cavity, and the formation of a new articular surface are not complete. The objection may be urged that the natural cavity is no longer surrounded with ligaments capable of retaining the bone in its original position, but the same may be said of the new; and nature will certainly restore the necessary attachments sooner in a natural, than create them anew in an unnatural situation.

ART. VII.—*Cases of Inversio Uteri.* By P. G. BERTOLET, of Oley, Berks Co., Pa.

CASE 1st.—Mrs. D. K., æt. 40, had *complete inversion of the uterus* of the *chronic* variety, *reducible* (using the term as applied by Dr. Radford, of Manchester). I saw this patient first on Sept. 21st, 1852, while she was laboring under typhoid fever, and from which she died in six days after. She had been afflicted with the loathsome affection, first mentioned, for nearly eight years. The womb would occasionally become inverted, in spite of all contrivances and applications of bandages and uterine supporters. The present inversion, I was told, came on while she was confined to bed in the recumbent position. It seemed as if the uterine fibres had acquired an abnormal habit of inverting. From the patient's general debility, there was also less power of resistance in the other parts. The organ was not much indurated, presented a livid hue, and was covered with dry epithelial scales. Owing to her state of debility, she could not now endure to have the organ completely replaced, and this, no doubt, lent considerable influence toward the speedy dissolution.

Case 2d.—Mrs. D. Y. P. was placed under my professional care in the spring of 1849. June 6th, she was delivered of a healthy female child. Previously she had had two children, who are yet living, but she aborted preceding her last confinement, which caused her friends some anxiety in regard to her present condition. But on this occasion she went to her full time, and had an easy, but somewhat tardy delivery, and a speedy recovery.

Sept. 12th, 1850. Aborted with a male fœtus of about five months. Her getting up was apparently good.

July 4th, 1851. Aborted with another male fœtus of four months.

May 3d, 1852. Aborted.

October 15th, 1854. Again aborted; but I not being at home just at the moment, my friend, Dr. Herbst, was called in, and when I arrived, he had already removed the child; but informed me that the secundines were retained by a large tumor in the mouth of the womb and upper part of the vagina, which might prove to be another ovum. Upon examination, I was led to confirm his opinion. The woman at the same time had bearing-down pains. The tumor felt rather more tense to the touch than the membranes do ordinarily, but this was thought might be owing to the early period of gestation, since they are then generally found firmer and more resisting.

After waiting some time, the tumor came down, but, to our sorrow, we found it to be the womb, which now became *completely inverted.* The placenta was peeled off, and but little hemorrhage supervened. It was with the utmost difficulty that the organ was got back, and the fundus did not maintain its normal position, even after we had succeeded in replacing it.

Acute metritis supervened, and the woman died the fifth day after the occurrence.

Remark.—The frequent abortions might, perhaps, be assigned as the cause of the inversion in this case, yet it seems to me a question, whether the cause of the frequent abortions was not due to a pre-existing depression of the fundus, or *partial* inversion, as Dr. Ashwell terms it.

Case 3d.—Mrs. J. K., æt. 24, was confined with her first child, Oct. 24th, 1856. She sent for me at the break of day, and upon employing the *touch*, I found the os tincæ dilated to about the size of a twenty-five cent piece. The pains recurred regularly, but at long intervals; otherwise she was doing well. Having several other patients in the vicinity, I left her for a few hours. On my return, at 10 A.M., I found labor progressing; and at 12 M., she was delivered of a fine female child. After the latter was removed, the placenta was found on examination, in the mouth of the womb, and by making gentle traction on the cord, came readily away. A considerable gush of blood followed, causing her to feel faint; but after lowering her pillows, she soon rallied, and the hemorrhage ceased. When I left her, she expressed herself as feeling pretty comfortable.

October 25th. Called early this morning. In order to maintain her quietude as much as possible, I drew off her water. Doing pretty well, feels only weak, which I attributed to the loss of blood yesterday.

I saw her daily until the seventh day after delivery, when she was doing apparently as well as could be expected. Passed water with ease, lochia moderate, secretion of milk abundant, appetite good, and strength so much regained that she could sit up and have her bed made. I left her, with advice to keep herself easy, and not to get out of bed too soon.

On the morning of Nov. 2d, the ninth day after delivery, I was sent for in great haste, the messenger stating that the patient had suddenly become very poorly, and that something was coming away from her. I found the woman lying upon her back, thighs drawn up, countenance pale and expressive of intense suffering, pulse very small and quick. A tumor, of about the size of my two fists, was found between her thighs, which proved to be the womb in a state of *complete inversion*. According to her statement, this state of things came on suddenly this morning, while on the close-stool for the purpose of voiding her water, in which she experienced some difficulty, and on making bearing-down efforts, "all at once everything gave way."

The womb was hard, and its vessels filled with blood, from the contraction of the os tincæ preventing its reflux; and but very slightly yielding upon pressure. There was no bleeding, save a little oozing, and the surface, when wiped clean, presented a dark red or livid hue, particularly that portion to which the placenta had been attached, which could readily be distinguished from its more rugose aspect and darker color.

The bladder was first emptied with a silver male catheter (it being impracticable to introduce any other). The womb was then enveloped in fine soft linen, and gently pressed between my two hands, in order to force out of its tissue as much blood as possible, and thereby diminish its size. In the course of twenty minutes, it became so reduced, that by a little upward pressure it passed again into the vagina. I next endeavored to indent the fundus with my two forefingers, previously well-wadded and anointed. In this I found great difficulty, but after some time succeeded, but could not carry it through the os uteri. In order to gain space, I wadded the handle of a spoon, and placed it in the position of my fingers, which I now withdrew, and continued gentle pressure; but this failed. The parts were again well anointed, and the hand introduced into the vagina, and as before, with my two fingers, I made steady pressure and continued it, found the os gradually dilating, and after one and a half hour's patient perseverance, had the satisfaction of replacing the organ in its natural position. The T bandage was then applied, and that of the abdomen removed. The woman soon expressed herself as feeling more comfortable. The operation gave her some pain, yet she bore it quite heroically, considering her condition. I did not feel justified in this case to make use of anæsthetic agents.

Nov. 3d, 8 A.M., tolerably comfortable, only weak; womb remained in its place; passed water; lochia moderate; some secretion of milk; appetite good; tongue clean; pulse 100 per minute; slept some during the night. Ordered the use of compound tr. bark, and an opiate at bed-time.

4th. No pain, but passed a restless night; abdomen somewhat tympanitic; bowels not moved since lavement, some six or seven days after accouchement; no lochia to-day; tongue thinly coated but not dry; some thirst; passed water. Directed the continuance of the bark with spts. nit. dulc., and $\frac{1}{4}$ gr. morphia sulph., at bed-time, to be repeated during the night if the first dose failed to afford rest.

5th. Very weak; tongue more coated; thirst; pulse weak and frequent; lochia very scant; womb upon examination found in its proper position. The bowels were ordered to be moved with oil and glysters.

6th. Oil operated; feels better this morning; stronger; some appetite; secretes a little milk; tongue less coated; pulse 90 per minute; fuller and stronger; rested comfortably during the night.

From this time forward she continued to improve steadily; and nothing untoward occurred except a somewhat painful œdema of her right leg, which prevented locomotion for several weeks. Several months have now elapsed, and I am happy to learn that she has recovered perfectly.

Note.—The subject of this case went through her term of pregnancy with regularity. She saw the last of her catamenia January 15th, '56. Is now married three years; was previous to pregnancy much troubled with dysmenorrhœa, which may probably have prevented earlier conception. Otherwise she always enjoyed good health, and is of a hale and robust constitution.

ART. VIII.—*Case of Dislocation of the Head of the Tibia forward upon the Thigh-bone.* By S. D. GROSS, M.D., Professor of Surgery in the Jefferson Medical College of Philadelphia.

A VERY large fat woman, weighing nearly two hundred pounds, married, and forty-eight years of age, while engaged in feeding her poultry, sustained a severe fall in consequence of the sudden slip of the right foot, which, bending outwards, thus caused the whole weight of the body to be thrown upon the corresponding knee. I saw her four hours after the occurrence of the accident, when several fruitless attempts had been already made at reduction. The knee, which was very painful and a good deal swollen, especially on the inside, appeared to be unusually wide from side to side; a circumstance partly due to the tumefaction of the soft parts. The leg was one inch and a half shorter than the opposite one, and in a straight line with the thigh. The patella had sunk behind the head of the tibia, into a sort of hollow, which gave to the front of the joint a flattened appearance. Upon grasping the bone, however, with the thumb and fingers, it was easily drawn forwards, leaving a remarkable vacuity behind, in consequence of its distance from the inferior extremity of the femur. The condyles of the thigh-bone lay in the popliteal space, posterior to the head of the tibia, where they formed a large prominence, more distinct on the inside than on the outside, and situated, as it were, in the upper and back part of the leg, the muscles of which were unusally tense. The head of the tibia lay in front of the condyles, where its outlines could be easily traced with the eye and finger. Above this bone, as already stated, was the patella with its ligament and the tendon of the extensor muscles, forming a broad, thick cord in front of the thigh-bone, from which it was removed more than two inches. The leg was easily drawn away from its fellow, but could not be carried inwards, showing that there was extensive rupture of the internal lateral ligament. There was no contusion of the soft parts, nor any discoloration of the integuments.

Chloroform having been administered, a stout lac was applied to the upper part of the thigh, and confided to an assistant, to make the requisite counter-extension, while extension was made by another assistant grasping the foot, the limb being in the extended position. Placing now my left forearm behind the knee, and requesting the aids to pull gently and steadily, I suddenly, with my right hand, bent the leg backwards, and thus in a few seconds effected the reduction; the bone slipping into its proper situation with a distinct "snap." The limb being placed in an easy position, cold cloths were applied to the knee, and a grain of morphia administered to allay pain and prevent spasm.

No untoward symptoms appeared after reduction. The patient kept her bed for nearly a fortnight, and medicated lotions were applied, after the first twenty-four hours, to moderate and subdue inflammation. Purgatives and light diet were also enjoined. In due time passive motion was instituted; the limb was frequently bandaged; and in less than a month from the accident, the woman was able to walk about the house with the aid of crutches. The joint, however, remained weak for a long time, and even now, several years after the occurrence of the injury, the slightest fatigue is attended with temporary lameness.

A complete dislocation of the head of the tibia forward upon the condyles of the thigh-bone is a rare accident, and this is the only instance of the kind that I have ever seen, as an uncomplicated lesion. From the amount of injury sustained by the ligaments of the joint, especially the lateral, severe inflammation may always be expected, which, if not timeously combated, will be likely to eventuate in anchylosis. The limb should, therefore, be carefully bandaged, and maintained perfectly at rest, either upon a bolster, or in the extended position in appropriate splints; free use being made, if necessary, of leeches, and, in all cases, of cold or warm water dressings, simple or medicated, as the circumstances may seem to indicate.

ART. IX.—*A Case of Chronic Peritonitis developed by Pregnancy.* By DANIEL B. CLIFFE, M.D., of Franklin, Tennessee.

DECEMBER 30, 1855, I was called to see Lara, female slave, aged 26, and found her laboring under the following symptoms: muscular system attenuated and flabby; countenance anxious; skin cool and dry; respiration hurried; with frequent expectoration of bloody mucus. The abdomen was quite large, and fluctuation distinct; complained of slight tenderness over the entire abdominal surface on pressure, and of occasional lancinating pains.

She confidently stated that she was five or six months advanced in pregnancy, though no uterine tumor could be distinguished through the abdominal walls.

The tongue was red, smooth, and pointed; appetite bad, and digestion impaired; daily amount of salivary secretion from one to two pints; frequent vomiting of pale green fluid; occasional diarrhœa alternated with obstinate constipation; secretion from the kidneys scanty and high-colored; pulse, 140, small and feeble.

Upon a careful examination with the stethoscope, neither the sounds of the fœtal heart nor the *bruit de souffle* could be heard.

The os uteri could be felt high up, enlarged and slightly patulous, and the uterus itself seemed immovable. She was the mother of several children, and had suffered in previous gestations with symptoms similar to those now present.

With a view of bringing about a more healthy secretion from the various affected organs, she was ordered to take a pill composed of blue mass and ext. tarax., morning and evening; and occasionally through the day a mixture of the solut. bicarb. pot. and tinct. digital. Rubefacients, anodyne fomentations, and vesications, applied over the abdomen.

Under this treatment, her symptoms were somewhat improved; her appetite increased, and digestion became more natural. The salivation and expectoration ceased. The rapidity of the pulse subsided, and hopes were entertained of a favorable issue.

January 14th. She was now ordered iod. pot. and chalybeates. For the succeeding few weeks no appreciable difference presented, except a slight increase in the size of the abdomen, until February 28, when she was seized with labor pains, and, before assistance could reach her, was delivered of a feeble and emaciated infant of about the seventh month, with the membranes entire. Slight flooding ensued, and the uterus contracted as well as in ordinary cases. The abdomen was but slightly diminished in size, and had lost none of its hardness.

Thirty-six hours after the birth of the child, and while at stool, she suddenly expired.

Autopsy 16 hours after death. Upon making a crucial incision through the walls of the abdomen, 3 or 4 pints of limpid yellow serum escaped; and in attempting to raise the flaps, the entire contents of the cavity were found to be firmly adherent to each other as well as to the parietes. It was with no little difficulty that the liver, omentum, and intestines could be separated; strong bands of false membrane uniting them. The uterus was well contracted, although the peritoneal coat was covered with false membrane in every stage of development. The entire surface of the intestines and the serous lining of the abdomen were thickly studded with white opaque bodies, varying from a line to half an inch in diameter, lying between the serous coat and the adventitious membrane.

The bladder was healthy; kidneys not examined; lungs healthy.

The principal point of interest in the foregoing is the previous existence of peritonitis, and recovery with, perhaps, slight adhesions.

These would doubtless have remained harmless for an indefinite period, but for the inopportune occurrence of pregnancy; the advance of which would necessarily interfere with the relative position of the various abdominal viscera and break up any adhesions, thereby exciting inflammation anew. Subacute peritonitis existed most certainly in the pregnancy previous to the last, and probably in one or more previous ones.

Editors' Table.

QUIS CUSTODIET CUSTODES.—We are just passing through the annual season of medical graduation; the great heart of Alma Mater is contracting, and with its yearly systole will send out, *per saltum*, fifteen hundred new-fledged doctors.

The one fact that so large a number of young men are thus sent forth to the responsible duties of the medical profession, is serious past all jesting. They go forth a mighty engine of good or evil, naturally predisposed to value their profession in proportion to the difficulty experienced in procuring a foothold in it; and it becomes a weighty question for us to consider, whether or not the colleges have been conscientious and thorough in the performance of their function of license.

The journals and the speech-makers of our societies and conventions have from time to time indulged in diatribes on the faults of our collegiate system, the struggles of competition between rival schools, and what they are pleased to call the annual sale of diplomas. These charges have been so freely bandied about, that it is raising no new question to discuss them, and we propose to say a few words in defence of a system which we cherish, if not of men whom we honour. It is not our purpose to be formal or methodical, but we do not recollect to have seen the whole truth told of late. It is the fashion to lay the sins of the profession on the heads of the colleges, and fashion makes slaves of us all.

Necessarily, all faults in American medical education are chargeable to two sources.

1. Errors in the system itself: and

2. Derelictions of duty on the part of the colleges.

And, first, of the system; for although we have no law which governs our action under penalties for non-observance, we have a plan of instruction which is remarkably uniform throughout the country. In nine cases out of ten, the student enters the office of a practitioner in the spring, reads for a year and a half, attends lectures for four or five months, reads again until fall, when he again listens to lectures until the last week in February, and then receives a diploma. His early education may or may not have been good; his diligence during his term of study may or may not have been great; and everything finally hinges on his examination for a degree. The power rests in the college exclusively; if its standard is high, it matters but little about the preliminaries; a good student becomes a good doctor of medicine; while, on the other hand, a low standard of graduation must inevitably fill the ranks of the profession with inferior men.

It follows from the above, and from other facts equally well known, that the colleges are an autocracy, having in their hands the honor and true interests of the profession. It is no logical sequence from this that the system is faulty. Such a power must rest somewhere, and the fewer repositories for such a responsibility, the more readily can they be controlled.

Looking at the broad result, we have no reason for supposing that this trust is not faithfully fulfilled. We mean that in other countries, where the colleges are hemmed in by other powers, where the professorships are government offices, and the temptation to bid for large classes is removed, the evils of which it is the habit of American journalism to complain exist in spite of their more elaborate system. European education, coupled with old-world habits of thought and action, produces a limited number of splendid scholars; but it is our honest belief, that for keen, practical, useful, bedside knowledge, no part of the world has a more competent medical profession than the United States. We speak from a somewhat extensive acquaintance both in city and country.

Lying back behind all systems and schemes of government is one great influence which must not be forgotten. It was the frequent remark of a shrewd gentleman of extensive knowledge of men, that "one must not expect all the Christian virtues for eight dollars a month." There is no power of public law or public opinion that can make a good physician, except it gives him a fair remuneration for his services. Talent is in the market, and, if commerce will pay better than professional life, it will engage in commerce.

Without dwelling upon this idea, we wish merely to throw it out as suggestive of another. All projects to cheapen medical education are erroneous. We must, in considering this, disconnect our minds from European habits of thought, and look to the broad, vigorous American character as the basis of argument. The government schools of Europe are founded on aristocratic institutions, and are a part of a social system which permeates all ranks and governs all conditions in life. It would be a miracle if such a plan could be adapted to two races of people, living under such widely different influences. Even in monarchical countries, where the foundational idea of education is the same, we find wide variations in its development, which evidently depend on the national character. Thus England has its medical departments in its Universities at Cambridge and Oxford, but their existence is hardly known. Rich in endowments, surrounded by the prestige of Isis and Cam, they are feeble nonentities in the strong medical life of England. The schools of London, competitive, expensive, comparatively poor in funds, but rich in clinical advantages, the energy of an immense city, and the talent drawn to them by the great reward which success in London implies, have dwarfed and overshadowed all other means of education. So, too, in Paris, where gratuitous schools are aided by magnificent clinical advantages. The lecture-rooms of royal professors are empty, while humble private instruction draws around it crowds of students.

We have said enough to indicate our belief, that the European system is not to be desired on this side of the Atlantic. We want an American system, one adapted to the national spirit, which would refuse even the priceless blessing of education when offered as a charity. Indeed this is a proper and manly pride in a country so rich as ours, where the young man who fails can only accuse his own lack of energy or forethought.

What modifications of our present scheme of education are desirable?

Shall we link in our state governments in their control, by establishing a supervisory board having power to annul the diploma granted by the college? Such an idea has been broached, but it is only necessary to call to mind the changeful, and too frequently venal source of appointment of such a board, to see that instead of a conservative, it would be a radical movement calculated to encourage the evil it was meant to avoid. Or shall we deprive the colleges of the power to grant diplomas, giving their function to a State Board of Regents? One has only to think of the small political doctors who would be sure to receive the appointment of Regent, to be convinced that the profession, while it is too democratic for European methods, is too conservative for modern American politics.

So long as our political life is what it now is, and so long as public opinion is stronger and less easily evaded than any other force which can be brought to bear, we must trust to our present plan, or to some simple modification of it. The profession itself, speaking in its conventions, its societies, and through its press, is the only authority which can or ought to govern the colleges. There may be—doubtless, are faults, and grave ones, in the manner of granting diplomas to candidates for the doctorship; but we do not believe that these are inseparable from the system, or to be mended by any wholesale tinkering of so-called reformers. The very feature, of which loudest complaint is made — competition — is its best safeguard. We are sick of their cry of "Competition!" as if all heresy and schism were embodied in it. It is a grand, noble feature in our schools; and we hope never to see the day, when they shall be deprived of its healthy, life-giving stimulus.

We are too "intensely respectable." A school cannot flourish without advertising; and the common-sense plan is, to let the advertisement show forth the advantages claimed by the school. It is through these advertisements that competition manifests itself, and attains to its natural results,—a perpetuation of itself, and a tendency to drive schools to add to their talent, and increase their advantages. We do not assert that the use of competitive means may not be liable to great abuses; but eye hath not yet seen perfection, and we must look to consequences, before we attempt to remedy even an acknowledged evil. It is evident, that, without competition, we should have fewer schools with greater powers, that, instead of struggling to employ a high order of talent to fill their museums, and surround themselves with abundant means of clinical instruction, we should have schools of doctrine, instead of instruction, and nests of nepotism, instead of hives of labor.

Even the control of a secular board of trustees is only desirable, in the same light that a veto power is necessary in the freest government. The most intelligent board is quite as likely to fill a chair badly, as well; while the faculty can have only one motive in choosing a colleague—the best interests of the school itself. The faculty should always possess the presidential power of nomination, leaving to the senatorial trustees the function of confirmation or rejection.

But—the reader will ask—what limit should be placed upon the privileges of the colleges?

We may answer, that the most important interest of the profession at large, is in securing ample means of instruction for young men entering on the field of practice. In our opinion, looking at the character and wants of the American people, our present system does not need radical alteration; and, at the present moment, the colleges should simply be made to feel the pressure of professional approval or disapprobation, as either may seem best. Let the State societies watch the schools, and assert their prerogative of censure if they are unworthy. There is not a school in the country so strong as to outlive the deserved and formal disapprobation of the American Medical Association.

There are other matters on which we fain would touch, had we time or space to do so. Various plans have been suggested and indorsed by the National Association, looking to the more thorough qualification of the young practitioner. Among these was a recommendation to require the student to pass an examination preliminary to his entrance upon his studies. That this has not been carried out, is due to the negligence of the minor societies, which have always failed to insist upon it.

Another and more striking reform was a project to lengthen the lecture term, and bring the daily duties of the student down to an amount of instruction such as he might have time to digest. Our present six hours per diem, for sixteen weeks, is preposterous,—in violation of all laws of health, physical or mental, and should be reformed. Why no change has been wrought in this obvious evil, is past our comprehension.

It would seem, that that school, in a great city, which should announce a collegiate year, with terms and vacations of appropriate length, offering a talent fully equal to that now concentrated in the winter term, with equal clinical advantages, would at once assume a leading position. There are in the country many students of sufficient means to avail themselves of such an opportunity, and they might be concentrated. We can foresee many difficulties in this scheme, but we do not look upon them as insuperable; and let the thing be once successful at a single point, competition and professional opinion would drive every school having any claim to respectability, into a similar arrangement.

Here is a practicable, tangible plan of reformation. Let us try, and perfect our present means of education, before rushing blindly into the adoption of foreign and incongruous systems.

Efforts are being made this winter, in Maine and Ohio, to get the Legislatures of these respective commonwealths to pass bills legalizing the study of anatomy. That these efforts may be crowned with success, is a consummation devoutly to be wished. It was, for a long time, a disputed question, whether the protection of the law did not rather hinder than aid the procurement of anatomical material; but this has been decided by the present state of things in Massachusetts, where, to her credit be it said, was made the first experiment of placing anatomical pursuits upon a legal basis. The first effect, it is true, was anything but encouraging; but now, that the knowledge of the law has passed out of the minds of that class of individuals, who can benefit society only by allowing their carcasses to fall into the hands of the anatomist; or rather, since the people have become familiarized to the subject, material is said to be as abundant this winter, in Boston, as in any of the other Northern cities. This same first effect is stated as being experienced now in New York, an anatomical bill having been in force in that State only about a year or eighteen months; but, we feel confident that the ultimate result will be for the good of all concerned. And when—may be here ask—will the profession of Pennsylvania take this matter in hand? We opine, that the anatomical wants of Philadelphia alone will equal those of any single State in the Union; yet we hear of no effort in progress or contemplation, by which she is to be protected in her attempts to keep up a supply. It may be argued against the agitation of this question, that there is an abundance of material to be had, without a resort to legislative enactment; that well enough should be let alone. But, what security have the physicians and medical schools of this State, more than those of any other, that this supply will continue, without guarding its sources?

We have this winter witnessed the beginning of evils connected with the present system, which can be put a stop to in the future only by the strong arm of the law. What legal right have we to forbid the exportation of subjects to New York, or Baltimore, or wherever they will command a higher price than we are accustomed to pay? And, indeed, with what justice can we so much as complain, seeing that we take no proper steps to prevent it? Are not the miserable creatures engaged in this traffic upon an equal footing with ourselves, the consumers, so far as *right* is concerned? And every one will admit that their *might* is even superior to ours.

We earnestly hope that it will not be long, ere every State in the Union will do for its medical men and medical colleges, in reference to this matter, what is so clearly demanded by considerations of justice and humanity. But, to accomplish the ends desired, the physicians of the State, and, more especially, the professors of the medical colleges of Philadelphia, must bestir themselves; for, certainly, if they do not look after their own interests, it is not likely that the Legislature will do it for them.

One of the most marked and valuable results obtained by modern statistics in scientific matters, is seen in the establishment of certain general laws in regard to the currents of the air and ocean; and Prof. Maury has thus so completely annihilated the force of our common simile "instable as the wind," that unless we adopt the familiar negro phrase in reference to the uncertainty of the white man, sacrificing elegance of diction to the rude assertion of a fact, we are at a loss where to find a like method of expression, the significance of which is comparable to the one thus scientifically destroyed. But even here, and by the same square rule and dividers, our resources of language are again at fault, for M. Quetelet has clearly proved that the perversities, vices, and criminal acts of mankind are subject to the influence of general laws. In communities, man commits the same number of murders each year, and with the same weapons. We can now enumerate, beforehand, making exceptions for epidemics of moral delinquency, how many individuals will imbrue their hands in the blood of their kind; how many will commit forgery; how many will poison themselves or others, with very nearly the same accuracy with which the political economist can tell how many births and deaths will take place.

From a communication made by Dr. R. C. Wood, of the Army Bureau at Washington, to Robert Thompson, of Columbus, Ohio, and published in the last number of the Western Lancet, we learn that the total number of applicants for admission into the medical corps of the army, for the fifteen years ending with 1853, was 698. Of this number only 394 reported themselves to the Board of Examiners; 132 withdrew after a partial examination, or were decided to be physically disqualified; 284 were examined, and 114 approved. It appears, therefore, of the number of candidates examined, nearly 44 per cent. are approved, or 1 in every 2 or 3. The number who pass a satisfactory examination out of the whole number reported is nearly 29 per cent.

Drs. L. A. Dugas and H. Rossignol have resigned the editorial supervision of the Southern Medical and Surgical Journal (Augusta, Ga.), and are succeeded by Drs. Henry F. and Robert Campbell, the former Professor of Surgical and Comparative Anatomy in the Medical College of Georgia, and the latter Demonstrator of Anatomy in the same institution. Under its new auspices, the "Journal" presents an improved appearance; and if the first two numbers which we have received are to be taken as samples of what the future will be, we shall have abundant occasion to congratulate the profession of the Southeast upon having a medical periodical worthy of their support.

Dr. J. N. Douglas is hereafter to be associated with Dr. E. H. Parker in editing the American Medical Monthly, in New York; they are also proprietors of the work, which commenced its seventh volume with the beginning of the year.

The Western Lancet comes to us in an enlarged form and a new dress becoming the excellent matter with which it is filled. Prof. Blackman, of the Medical College of Ohio, is now the sole editor and proprietor.

Gustav. C. E. Weber, M.D., of New York, has been appointed Professor of Surgery in the Cleveland Medical College in place of Prof. Ackley, resigned. Dr. Weber is the son of the eminent German anatomist of that name, whose life-sized plates, illustrating the anatomy of the human body, are to be found in nearly every medical school in this country.

Dr. Brown Séquard, having returned from his visit to Charleston, where he has been delivering a course of lectures on the structure and functions of the spinal cord and nerves, will remain some time in this city. We learn that he has not yet determined upon a permanent residence.

Dr. J. Aitken Meigs has been appointed Professor of the Institutes in the Philadelphia College of Medicine, Dr. H. Hartshorne having been transferred to the Chair of Practice. Dr. W. Hembel Taggart has also been elected Professor of Materia Medica in the same College, in place of Dr. Tyson, resigned.

At a meeting of the Philadelphia County Medical Society, held on the 21st of January, the following officers were elected for the ensuing year:

President.—Dr. Gouverneur Emerson.

Vice Presidents.— Dr. John Bell, Dr. Thomas H. Yardley.

Recording Secretary.—Dr. J. Aitken Meigs.

Assistant Secretary.—Dr. T. Hewson Bache.

Corresponding Secretary.—Dr. Francis West.

Treasurer.—Dr. R. P. Thomas.

Censors.—Dr. John B. Biddle, Dr. D. F. Condie, Dr. R. La Roche, Dr. Samuel Lewis, and Dr. Lewis Rodman.

DESTRUCTION OF THE UNIVERSITY OF LOUISVILLE.—Most of our readers have, doubtless, ere this, heard of the destruction by fire of the noble edifice of the Medical Department of the University of Louisville. It occurred on the 30th of December last, at 8 o'clock in the morning, in consequence, as was supposed, of a flaw in the stove-pipe in the chemical laboratory, from which it rapidly spread to the museum, situated immediately above, and thence to the other apartments, the whole building being soon wrapped in flames. Great efforts were made to save its contents; but, with the exception of about two-thirds of the library and of the chemical apparatus, everything was destroyed. The total loss is estimated at $40,000, of which $32,000 only was covered by insurance. The edifice was one of the largest and most commodious of its kind in America, having three spacious and elegant lecture-rooms, a large museum, library, and dissecting-room, and private apartments for each member of the faculty; in short, every possible accommodation and convenience that such a building can have. The museum contained the best collection of skulls in plaster of Paris in the country, numerous dry and wet preparations, and a suite of Thibert's models of morbid structure, together with a valuable collection of fossils, which were totally destroyed.

Included in this destruction, was a portion of the private library of the senior editor of this journal, which had been sent there only a few days before his removal from Kentucky, for safe keeping. It comprised at least 2000 volumes, embracing a large collection of the older writers on surgery and anatomy, a number of series of medical journals, many volumes of medical tracts, and one of the most extensive and valuable collection of monographs on the diseases of the genito-urinary organs, in the world. Of the latter, many were from the library of the late Dr. Crosse, the eminent surgeon of Norwich, England. Not a volume of this collection was saved, nor was there any insurance upon it.

It is amazing how such a destructive fire could have originated; the occurrence implies great carelessness on the part of those who had the superintendence of the building, and should serve as a warning to the guardians of similar institutions. The day for stoves in public buildings has passed by, and those who continue to use them, in the face of the many modern improvements for heating houses, should be deprived of the benefit of insurance. That the whole edifice of the University of Louisville should have been destroyed in open daylight, will not surprise any one, when he is informed that Louisville has no public waterworks; the only city, probably, of its size in the world, that is in this predicament.

Notwithstanding the loss of their building, museum, apparatus, and library, the faculty are engaged in delivering their courses of lectures, and it is understood that they will take early measures for the erection and furnishing of a new edifice. What adds to their misfortune is, that the class has been unusually small this session, numbering less than at any period since the third year of the existence of the school.

THE NEW ANÆSTHETIC.—Our London exchanges contain accounts of experiments by Dr. John Snow, on the use of the vapor of amylene, by which it appears that this substance possesses anæsthetic properties not inferior to chloroform and ether. Dr. Snow first tried the effect of this, hitherto but little known remedy, upon some of the inferior animals, and witnessing no ill effects, he took the vapor himself with a like result. Since then, he has administered it to quite a number of patients in the London hospitals, with very good results. Mr. Fergusson, Mr. Bowman, and others, have allowed it to be employed in some of their operations, and express themselves as satisfied with its good effect in causing an entire prevention of pain, and an apparently pleasant sleep. Amylene is made by distilling fusel oil with chloride of zinc; its composition is 10 atoms of hydrogen, and 10 of carbon; its specific gravity is somewhere in the neighborhood of ·700; and its boiling-point 102° Fahr. It was first discovered by Cahours, about fifteen years ago, but Dr. Snow has the entire credit of demonstrating its anæsthetic properties. Its relative advantages and disadvantages, as stated by Dr. Snow in the Times and Gazette, are as follows: "In regard to its odor, it is more objectionable than chloroform, but much less so than sulphuric ether. In respect to its pungency, it has a great advantage over both ether and chloroform, being much less pungent than either of them. Thus, whilst the patient, especially if a female, often complains of a choking feeling and want of breath in commencing to inhale chloroform, and two or three minutes are lost before the vapor can be inhaled in any useful quantity, she can begin to inhale the amylene in full strength within half a minute from commencing, and the operation may generally be begun within three minutes. In the amount which suffices to induce insensibility, it is intermediate between chloroform and ether, chloroform having the advantage. Amylene has an advantage in preventing pain, with a less profound stupor than that occasioned by the other agents, and in the ready waking and recovery of the patient it has an advantage over chloroform, and a still greater advantage over ether. Its probable safety I have spoken of; and the greatest advantage of all, if it should continue to be met with in all cases, is the absence of sickness from its use. The almost entire absence of struggling and rigidity may also be mentioned as an advantage of amylene over ether and chloroform."

The election of Dr. Mayo to the presidency of the London College of Physicians, as successor to the late Dr. Paris, seems to give great dissatisfaction to the English journalists. It appears that the Elects are but seven in number, namely: Drs. Alderson, John Bright, Mayo, Francis Hawkins, Southey, and Turner, nearly all of whom are very old and decrepid, one being blind, another a cripple, another a mesmerist; so that the list of efficient men was very limited, and Dr. Mayo was not in this list. The presidency of the College is looked upon as the highest honor to which a medical man in Great Britain can attain, and in point of general influence, and more especially influence upon government officials and politicians, it is unlike anything of the sort in this country. Hence the great necessity for an active, energetic, shrewd man to fill the place, and hence too, the great disappointment produced by the recent election.

A British merchant vessel, called the Duke of Portland, engaged in carrying Chinese from Hong Kong to the Havana, lately lost 132 of these poor creatures on a single trip. The Times and Gazette may well ask, "What are the horrors of the middle passage in slavers to this? The causes of death were entered in the log-book as 'fever' and 'exhaustion.' Probably 'scurvy' and 'starvation' would have been nearer the truth."

M. Humboldt, in his "Personal Narrative," states that "in the thirteenth century the habit of eating human flesh pervaded all classes of society. Extraordinary snares were spread for physicians in particular. They were called to attend persons who feigned to be sick, but who were only hungry, and it was not in order to be consulted but devoured."

Mr. Alfred J. Wood, Surgeon to the Gloucester Infirmary, reports to one of the London journals, what he claims as a new suture for the cure of hare-lip, and refers to a case published in the Medical Gazette, so long ago as Sept. 24, 1841, as the first in which he had employed it. He states that since that time he has used it in all cases in which hare-lip needles and the twisted suture are generally applied, and with uniformly successful results. Without the necessary illustrations, we cannot give our readers a very clear idea of the nature of this suture, but may state that it is not unlike the ordinary shotted suture; only instead of metal ligatures, Mr. Wood uses silk, and instead of the shot, a similar number of little silver discs perforated at the centre with a bar across the opening, upon which to tie the threads. A large straight needle is armed with a double ligature, the two ends of which are slipped through one of the discs and tied over the bar; the needle is then carried entirely across the wound, the thread drawn so as to bring the disc to press upon the lip, when the needle is cut off, and the two ends carried through another similar disc in the same manner as the first. Upon slipping the second disc down to its place, and drawing upon the ligature, the opposite sides of the wound are brought in contact, when the two threads are tied across the bar. It is seldom that more than two such sutures are required in cases of hare-lip.

We need hardly call attention to the fact that this suture, although bearing a very close resemblance, is not a modification of the clamp-suture, having been invented long before the latter was thought of. Its applicability to all wounds where deep sutures are required, and where the quill-suture is customarily employed, as in the operation for lacerated perineum, is pointed out by Mr. Wood.

Dr. Livingston, who lately returned to Great Britain, from an absence of nearly seventeen years in the wilds of South Africa, is undergoing the ordeal of a degree of public attention, quite unusual with our phlegmatic neighbors. But he well deserves it and tenfold more. As an example of a persevering and self-sacrificing man of science and a zealous missionary, he has probably no equal in the ranks of the Christian Church, or the medical profession. In addition to all, his modesty in positively refusing to publish to the world the details of the dangers he has encountered, is equally rare, and although carried to an unnecessary extreme, forms an agreeable contrast to the romantic accounts of some professedly scientific travellers, whom we might name. In one of his public addresses, he, however, mentioned incidentally that for *sixteen years* he had not an opportunity of conversing in his native language, a circumstance which is of itself significant to our minds of positive suffering seldom endured, even within the walls of a state prison. His contributions to scientific knowledge have not yet been given to the public, but doubtless will be ere long, when we look for some most interesting additions to our present slender information, concerning the diseases of the countries through which he travelled. In his address before the London Missionary Society, he stated that some of the interior districts of Africa are perfect sanatoria, and among the pure negro family, many diseases common in Europe are almost unknown. Small-pox and measles had not been known for twenty years, and consumption, scrofula, cancer, and hydrophobia are seldom heard of.

Now that the smoke of the contest, conducted, on the one hand, by Mr. Fergusson, and on the other by the equally distinguished Mr. Syme, in regard to the manner in which the late Mr. Liston was in the habit of holding the knife in the operation of lithotomy, has passed away, it turns out as we predicted, that the Scotch professor has gained the day, and the victorious party are having a gay time over the defeat of the Queen's surgeon. The last and decisive charge was made by Mr. Pirrie, whose array of facts in proof that Mr. Liston held the scalpel in the underhanded position, as represented in the various wood-cuts which appear in the pages of his own, Mr. Pirrie's, Mr. Miller's, and Mr. Druitt's books on surgery, is perfectly overwhelming.

But hardly is this *great* battle of the knives decided before another equally honorable to the distinguished parties involved is begun. Mr. Ramsbotham, who, however, notwithstanding his high position in the obstetric world and the adaptative nature of his calling to the annually recurring professional wants of her Majesty, has not, we believe, the entrée of the royal chamber, charges publicly upon Mr. Churchill, a brother accoucheur, a theft committed some twelve or fifteen years ago. The articles said to be stolen are certain woodcut illustrations, which, without leave or license, or even an acknowledgment, Mr. Churchill was wicked enough to copy from Mr. Ramsbotham's book on midwifery, published about that time. The war has just begun, and how it will end the world will no doubt in due time be informed. In the meantime, speculation is rife, and the intensest interest is felt to know the result.

WHEN IS A MEDICAL TEACHER OR PRACTITIONER SUPERANNUATED?—In the organization of one of our western medical schools some years ago, the board of trustees of the institution declared, by the enactment of a statute, that when a professor has attained the age of sixty-five years he is no longer qualified to teach, but must consider himself superannuated, in spite of whatever testimony he may have to the contrary. In Paris a law prevails in regard to hospital physicians and surgeons, similar in its bearing, but even still more arbitrary and unjust, since its limit is five years less. Under this regulation MM. Paul Dubois, Cruveilhier, Bonneau, and Hervez de Chégoin, having reached the fatal sixtieth year, retired from their respective posts at the beginning of the present year. M. Paul Dubois continues, however, as Professor of Clinical Midwifery to the Faculty at the Hôpital des Cliniques; it is at the Maternité that he will have a successor.

ARABIAN SURGERY IN THE FIFTH CENTURY.—The following description by Hacam-Addimechky of the application of pressure and water-dressing for the cure of a wounded artery, will be read not without some degree of interest. It is contained in a History of Physicians, by Aby Ossaibi'ah, who was born in Damascus at the beginning of the thirteenth century.

"I was," said Ica, "in the company of my father in the city of Damascus; we were passing by the shop of a kind of barber or surgeon-cupper, opposite which a crowd was collected. One of the number having recognized us, said: 'Here is Hacam, the physician, and his son Ica; make room.' The people gradually withdrew, and we then saw a man who had been bled by the barber in the basilic vein. The orifice was large—the basilic was over the artery; the operator did not know how to isolate the vein, and he wounded the artery. The surgeon-barber did not know any means of arresting the flow of blood. We tried compresses, spider's web, fine hair, but without success. My father asked me if I could propose any other plan, and I replied in the negative. He then told me to bring a pistachio nut, which he broke into two equal parts, and, throwing away the fruit, took one half of the shell and placed it on the opening made by the bleeding. He then cut a roller of thick linen, with which he enveloped the wound over the half of the pistachio nut, drawing the bandage so tight as to make the man cry out for help. Having thus inclosed the arm, he secured well the ligatures, and directed the man to be taken to the river Barada. My father then made him put his arm into the river—while resting on a kind of bed on the bank, and left him to sleep there. He also made him swallow some yolks of eggs half-boiled, and left him under the care of one of his pupils. My father enjoined the latter not to permit the patient to withdraw his arm from the water, except at the hour of prayer, unless there was reason to fear that death might ensue from the extreme cold. In this case the man was to be permitted to take his arm out of the water for a few moments, and then immediately to immerse it again. This lasted till the evening. My father then had the wounded man taken home, and he forbade him to uncover the wound from the bleeding, or to take off the bandage until five days had elapsed. The man obeyed, but my father went to see him on the third day, and saw that the arm was very much swelled, as was also the forearm. He then loosed the ligature; and told the patient "the swelling is a less serious thing than death." On the fifth day, my father removed the bandage, and we found that the shell of the pistachio was adherent to the flesh. My father told the individual, it is by this shell that you have been saved from the tomb; if you take it away before it separates and falls off of itself, you will bring about your own death. The shell fell off on the seventh day, and in its place there was dry blood, and a clot of the figure of the pistachio nut. My father told this man not to touch the clot, nor to scratch around its border, nor to attempt to break it with his fingers. The blood came away by degrees, and the place of the bleeding was only visible after the lapse of forty days. This man was completely cured.

GROSS INJUSTICE TO AN EMINENT PHYSICIAN.—We read, in the *Arch. Gen.* for December last, a condensed notice of the arbitrary treatment to which Dr. COINDET, the long and well-known physician of Geneva, has been subjected by the Council of State of that city, at the instance of a Dr. Duchosal, President of the Department of Justice and Police. A full narrative of the whole transaction has been published by the Medical Society of Geneva. The members of the Faculty of Medicine of that city have, almost by unanimous vote, sent an address of condolence to Dr. Coindet, in which the conduct of the government and its chosen experts are emphatically blamed.

It seems that Dr. Coindet, who has been at the head of the Asylum for the Insane for the last twenty-five years, was consulted, not long since, respecting the condition of a young girl, who he soon discovered was laboring under periodical insanity. In place, however, of giving, as he had the right to do, a simple certificate which would authorize her being placed in a *maison de santé*, or private establishment for the sick, he took the precaution, as the case was one of insanity, the diagnosis of which was difficult, to call on Dr. Duchosal, a counsellor of state and a public officer, whose functions have just been named, and gave all desirable explanations respecting the mental condition of the young girl. In consequence of this information, Duchosal signed the order for her admission into the Asylum for the Insane, and had her removed to the institution by one of his agents.

A fortnight after this, Duchosal appointed two experts who did not belong to the commission legally intrusted with this duty, but who were charged with that of examining anew the actual state of mind of this young girl. These two persons and two others, political friends of the counsellor of state, acting without the knowledge of Dr. Coindet, drew the notable conclusion, after a very imperfect report, that at the *moment of their examination* the young girl exhibited no evidence of insanity. On the strength of this report, the Council of State, without waiting for any other document, but wishing, while it accomplished its purpose, to shield itself from the odium of an unjust dismissal from his office, accused Dr. Coindet, in writing, of the arbitrary detention of a young girl, who was a minor; and after having thus calumniated him, sent him a derisory invitation to resign his post in the Asylum for the Insane. On the refusal, stated on strong grounds, by Dr. Coindet, the Council dismissed him from office; and reiterated, at the same time, the accusation against him of illegal sequestration.

This brutal dismissal (as it is called by the French Journalist), without investigation or discussion, produced a deep sensation in the Medical Faculty of Geneva, which body hastened to address Dr. Coindet in the manner already stated. But their letter was made the signal for a fresh display of arbitrary power, in dismissals from office, as unjust as that of Dr. Coindet, of most estimable men, known to all for their scientific attainments and honorable deportment; but who were accused or suspected of having signed the letter of protest.

EULOGIUM ON ROUX, THE EMINENT SURGEON, AND REMINISCENCES OF HIS GREAT RIVAL, DUPUYTREN.—It is the duty of the perpetual secretary, perhaps we ought to say the secretary for life, of the French Academy of Medicine, to pronounce the eulogy of a deceased member at the annual meeting of that body. The office was held for many years by M. Pariset, who acquired no little reputation for the ability and, we might say, dexterity with which he could lavish praises on and barely hint defects of the departed academician. His successor, the present incumbent, M. F. Dubois (d'Amiens), already displays nearly equal tact, but with a less affluent and flowery style. At the annual public meeting of the Academy, held on the 16th of December last, in the presence of a certain number of invited persons of both sexes, M. Dubois delivered the eulogium on M. Roux. The French Journal,* from which we derive our knowledge of the address, has some piquant remarks on the occasion, which will not be without value for us on this side of the Atlantic. Credit is given to the speaker for his endeavor to exhibit all the good qualities of the head and heart, but without concealing the defects of Roux, which last prevented him from reaching the lofty renown of his predecessor at the hospital of the Hôtel Dieu, M. Dupuytren. This historic impartiality is scarcely ever attempted, still less carried out, in American biographies; and we are left, the greater part of the time, in complete ignorance of the real character, as far as regards disposition and personal habits, of the man. The biographer forgets that he is not writing merely for the gratification of a certain number of contemporaries, but for posterity, which will like to know the man as he was, irrespective of the personal predilections or prejudices to which he was subjected at the time. The French Journal points out some of the different modes of proceeding pursued by the academic orators. Some, without entirely neglecting biographical details of the hero of the hour, devote themselves, in a more especial manner, to a profound appreciation of his works. Such were, more particularly, the academic eulogiums of Arago. Others take to the anecdotal line, so that the insignificance of the personage himself is entirely lost sight of in the crowd of minor stories skilfully narrated. Although this last fashion of proceeding was not, as it could not be attempted in the case of such a person as Roux; yet neither was the other, which should consist in a complete and searching analysis of the labors of the great surgeon, carried out by M. Dubois, owing to the restraint under which he felt himself by the presence of the female portion of his auditory.

It is only on the supposition of his fear of offending the ears of the other sex, that we can account for the silence of M. Dubois on perineoraphy one of the most brilliant surgical displays of Roux. In truth, as the French reporter wittily remarks, the perpetual secretary, who, apropos of staphyloraphy, made those of both sexes who were present so clearly understand what that delicate and movable membrane at the back of the mouth was, ought not to have been deterred from some allegorical description of the perineum. Besides, who knows whether the female portion of the auditory were not dissatisfied with M. Dubois's reticence on this occasion? The auditory doubtless came, as the writer suggests, in quest of surgical emotions, a proof of which is furnished by an indiscreet feuilletonist, who relates that the ladies paid no attention to the entrance of M. Huguier and some other academicians, but that the sight of M. Ricord caused all heads to turn in his direction. "Such a licentious curiosity deserved to be punished by a long description of the suture of the perineum."

---

* Archiv. Gen., Janv. 1857.

A somewhat similar scene to that here alluded to, occurred at one of the sessions of the National Medical Association, when it met in Baltimore. Pains were taken by some of the members, who, on that occasion, were more good-natured than discreet, to let their friends of both sexes know that the chairman of the Committee on Periodical Medical Literature, who was well known and appreciated both as a wit and a poet, would read his report at a certain hour. Thus notified and invited, a number of amateurs of both sexes took their seats, at the time designated, in the gallery of the church in which the Association held its meetings. We do not know to what extent, or in what manner, these new auditors were affected by the report, nor how few could appreciate or relish the pungent criticisms, and ridicule of journalist defects and foibles. But we remember very well how highly amused the members of the Association, and particularly the other members of the Committee were at the embarrassment of the chairman, when he came to certain words and phrases descriptive of particular organs or particular diseases, which are seldom if ever addressed to "ears polite," and at the dexterity with which he would either omit or slur them, or substitute a somewhat equivalent but more palatable phraseology. This was the first, and it will, we believe, be the last time in which persons of the other sex will be invited, or care to show themselves, at the meeting of a Medical Association when it is engaged in the reading or discussion of professional subjects. If women should ever present themselves on such an occasion, then ought they to be saluted with full discharge of the entire description, whatever may be the subject,—disease, operation, or remedy, even to the exhibition of a sick-room apparatus, like that introduced on the French stage in the performance of *Le Malade Imaginaire.*

But, shutting our eyes on the mixed auditory at the Academy, let us revert to Roux and the perpetual secretary, M. Dubois. Notice is taken by the latter of the debut of the young aspirant for fame, by his entering himself as an army surgeon. We are told, also, of his well-known intimacy with Bichat; his first struggles with Dupuytren, and of his relations to Boyer, whose daughter he married. But we glide over these, and the notices of his subsequent life, until we reach the period of M. Roux's election as first surgeon to the Hôtel Dieu, and read the parallel drawn of him and his deceased predecessor, Dupuytren.

"He was finally at the head of French surgery. He met Dupuytren, and Dupuytren had stayed his further progress. If at times he succeeded in placing himself on the same line with Dupuytren, it was because on this same line there were many posts: wherever there was but one of these, it was Dupuytren who filled it. There could be only one chief surgeon to the king, and it was Dupuytren who obtained this signal honor; there could be only at the same time one chief surgeon to the Hôtel Dieu, and it was Dupuytren who occupied the post; and if M. Roux finally obtained it, it was because the death of his rival left him the field clear."

It was said that Roux, sensible of the weighty succession that would devolve on him, hesitated some time before he would accept it; and having once decided for himself, it is known how he was received, and the prejudices he had to encounter. And yet to see these two surgeons, Dupuytren and Roux, it would seem easy to say which of them would soonest secure the favorable opinion of young men on his side. The former had a gloomy and majestic carriage, and walked at the head of his pupils with a haughty and anxious expression of countenance; everybody was uncovered as he went along, and followed him in silence. The other showed himself with a countenance at once open, content, and smiling; greeting all, kind, obliging, and seeking by these means, to swell a somewhat noisy cortege, in whose gaiety he participated.

Dupuytren's literary education was defective, and even in his moral training there were voids which he never learned to fill up; but yet everything in him inspired respect and kept others at a distance; his speech, like his attitude and gestures, was plain, grave, and almost august. Roux aimed at elegance, and shone in other ways: it must be admitted that he indulged in repetitions and interminable terms in all his allocutions; but, at the same time, what rich reminiscences, what keenness in his perceptions—and all without preparation, without affectation, and with a charm, an easy freedom, a benevolence beyond all imitation. But as his self-constituted judges at their last "*Concours*," in which he and the shade of Dupuytren seemed to be brought in presence of each other, in the vast wards of the Hôtel Dieu, were all instinctively, as it were, hostile to M. Roux, they could only discover that the fashion of speech of the rash successor of Dupuytren was diffuse, prolix, abounding in circumlocution, embarrassed with obscurities and perpetual iterations; whilst the elocution of Dupuytren, which was lofty, exact, and sententious, was durably impressed on their memory as a classic model of correctness,method, and clearness.

On the mistaken views entertained by Roux, of the manner in which he could best efface the memory of his predecessor, viz., by continual action and movement, M. Dubois makes the following observation : "He forgot that what raised to so high a pitch the fame of his predecessor was not the number or the novelty of the operations which he performed, but rather his admirable judgment, the certainty of his diagnosis, and that rare prudence which was manifested in everything he did. It is true, that he blended with these some degree of artifice and ostentation, and that, in reality, the safety of his patients caused him perhaps less anxiety than the care of his own reputation; but as, after all, the two were inevitably linked together, these minute precautions, these deep calculations eventually turned to the profit of the sick."

After a rapid survey of the labors of Roux as a teacher, a practitioner, and a writer, M. Dubois concludes his address by a free and discriminating picture of the lamented Professor. "Three great surgeons have in a measure taken up, in our estimation, the first half of the nineteenth century: Boyer, Dupuytren, and Roux. Of these three surgeons, Roux was incontestably, as an operator, the most ingenious, the most enterprising, and the boldest; but we ought to add, that he has not always been free from censure for having carried this boldness to the extent of rashness. In his case, the qualities of the good, the true, the excellent surgeon, were summed up almost entirely in the art of operating with dexterity and grace—above all, with grace. Roux, more than any other man, had it in his power to be of service to the cause of humanity: he advanced the science, and in many points extended the limits of the art. Why did he not possess a little more of that prudence and reserve which are so necessary in the practice of surgery? He excelled in all; but never knowing when to restrain himself, he abused his powers nearly in all; not only in speech and in writing, but also in that which is the most formidable thing in the world, the art of surgery. Impatient in action, desirous of exhibiting himself with all his advantages, that is to say, with instrument in hand, he did not always take time to ascertain whether an operation was absolutely necessary, or rigorously indispensable: he only ascertained whether it was *possible*. But what operation is not possible to so skilful a surgeon?" Age could not calm his vivacity and impetuosity; and hence "that defect of order and connection which appeared, by turns, in his lectures, his writings, and his practice. How often has he not been seen, yielding to the chance inspirations of the moment, begin an operation, as he would a discourse, without knowing in advance where he would stop, or how he would finish, and himself astonished at the turns he had made and the results which he had reached.

"Roux was then a great operator, but he was so too exclusively; he was not adequately penetrated with that great and incontestable truth: that a man, to be a successful surgeon, must also be a wise physician; that what constitutes the strength and glory of surgery is, that in its study and in its practice, it is in close union with medicine."

It was our good fortune, we will not say how long ago, to walk attendance on both Dupuytren and Roux in their hospitals, the Hôtel Dieu and the Charité, for upwards of a year; visiting each of these institutions on alternate days, and hearing the clinical lectures of these two celebrated surgeons, who were then in the maturity of their powers and their fame. Roux was second surgeon to the Charité at this time, in association with his father-in-law, Boyer, who was chief surgeon. We might even speak of a certain degree of acquaintance with the Napoleon of the Hôtel Dieu, which, however, we must confess, was somewhat of the same kind as that of a boasting Gascon with a distinguished personage of whom his friend was speaking at the time. On being hard pushed to describe the kind of intercourse between himself and the dignitary in question, it was found to consist in the latter having kicked him down stairs, with an objurgatory request to leave the house. Our acquaintance with Dupuytren was not quite of so close a nature. It consisted in our expressing a hope that he would allow us to attend the hospital during his regular visits. Probably embarrassment, and a not overfluent French diction, prevented our meaning from being as fully expressed as we wished. But, be this as it may, we well remember the reply, which was much more laconic than Parisian,—"Who are you?"—uttered in a tone of impatience, and with a look of disdainful inquiry. Our rejoinder of, *Un medecin Americain*, was hardly listened to, and the great man passed on to the next bed. The request on our part was, after all, one merely of courtesy, as at that time the hospitals were open to all. In the course of the following winter, when access was not quite so easy, certain conditions were attached to the permission for French students.

Foreigners who had graduated at home, were admitted on exhibiting their diplomas.

Dupuytren's lectures were given in a theatre which was also the operating room of the hospital. They were remarkable for their clearness, and their simple and terse language, but without any pretence to methodical arrangement, and with scarcely a sprinkling of learning, neither of which, it must be confessed, are rigidly demanded in clinical teaching. The lecturer himself was seated in an open chair raised on a kind of staging, which was reached by two or three steps from the arena of the lecture-room and on the side through which light was admitted. He seldom faced his class, but, for the most part, turned to one side, with legs crossed; and as he began in rather a low voice, it cost those on whom he had turned his back, a considerable effort to hear him, although his utterance was distinct, and altogether his elocution excellent. Gradually his voice became somewhat more raised, and then, having obtained the ears of the full theatre, he commanded unfailing attention to the end.

Of this he was sure, for two reasons; First, owing to the interest inspired by his manner of handling the subject; and, secondly, to the certainty that any one of his auditors guilty of the least noise, or who disturbed others in any way, would be at once noticed, and rebuked by the lecturer, if not summarily ejected from the lecture-room. One was sure of seeing an operation, when it was performed in the lecture-room or theatre. No crowding round the table was permitted. The surgeon only allowed one, or at most two assistants to be near him; and as to the hospital dressers and resident students, *externes* and *internes*, they were ordered to be down on their haunches on the floor, or arena of the theatre. Dupuytren had a scale of sounds in his own mind, by which he measured the cries of those who were subjected to his knife on the operating table. We have seen him lay down his instrument in the midst of an operation for strangulated hernia, and tell the patient in somewhat rough speech, that he hollowed too loud—made too much noise, and that if he did not cease, or lower his tone, he would not continue the operation. The least neglect of duty, which included want of punctual attendance on the part of the house students, when the roll was called in the morning, just before the visit through the wards, was sure to meet with a harsh reprimand—such as the slave might expect from his overseer or task-master. Notwithstanding all this, when it suited his purpose, this boorish and unfeeling man, could so entirely change his whole manner and expression as to be no longer recognizable, were a screen to be interposed between him and those listening to his discourse. When, for example, he wished to allay the alarm of a child, and insure as much as possible its keeping quiet during an operation on the eye, nothing could be more soothing than his speech on the occasion, no tones more musical, more inspiring of confidence and love, than those in which he addressed *mon enfant, mon cher petit, mon mignon;* and certainly the charm at times seemed to operate as the inhalations of ether and chloroform have since done. In the city he could successfully act the same part, as we learned from the question of a lady; whether we did not find M. Dupuytren to be a most agreeable man, and remarkable for his amenity in the hospital?

All Paris, with its seemingly endless variety of manner of speech and style of address among its inhabitants, could not present so strong a contrast between any other two men, as there was between Dupuytren and Roux, as lecturers. The first, as we have seen, was slow, measured, sententious;—every period rounded, every word distinctly uttered, and carrying with it the full and desired meaning, as if cast and polished with artistic skill for the purpose. Roux, on the other hand, was voluble, and so fluent that the stream of words was unbroken by pause or cæsura, and they were so run into each other, as to fail to carry their separate meaning, so that the puzzled listener was left, half the time, to guess from the context, by his ear, now and then catching a word which compelled a little more slow syllabification. The mouth of the speaker was somewhat drawn up and projected, as when a person is about to whistle, and if, while he does this, he were to roll his tongue about, he would have no bad idea of the buccal and lingual movements of M. Roux, the intonations of whose voice were, besides, entirely deficient in clearness or resonance. How he was relished, and how appreciated as a lecturer by the French students themselves, may be understood from the remark of one of them, who asked, after we had been some months in Paris, how we got along in following the different lecturers? Our reply was, "Very well; except with M. Roux, whom we do not understand." "Ah! in truth, nor I either; none of us can make him out," was the rejoinder of our querist. And yet this man wrought his way to high position as a teacher, and kept it too. His success is, however, only one among the many examples of what talents and perseverance will procure for their possessor, even under the greatest natural disadvantages. Roux was listened to with respect, because everybody knew that he could wield the pen and the operating knife with ease, dexterity, and ability; and to the last, people could hardly believe it possible that a man, whose hand, in so marked and extraordinary a manner, and in such different ways, could execute the dictates of an active and teeming mind, should not find his organs of speech equally obedient and ready to enable him to give full utterance to his great experience, his fertile expedients, and his overflowing suggestiveness.

Bonpland, the veteran explorer, now in his eighty-third year, writes from Uruguay that he is about to cross the ocean, to offer his collections of botany and other specimens of natural history, to the French government; after which he will return to South America, and end his days on his plantation.

M. Nélaton has been lately elected to fill the vacancy in the section of surgery at the Academy, caused by the death of Gerdy, by a vote of 60 out of 78 academicians. His competitors were Denonvilliers, Hutin, Moret-Lavellee, and Bonnafont.

Owing to an unusual amount of reviews and original contributions, we have been compelled to omit the "Bi-Monthly Periscope" in this number. This will probably not occur again, however satisfactory it may appear to be able to offer our readers a journal full of new matter.

NECROLOGY.

Hugh Miller.—The mournful and tragical end of Mr. Hugh Miller, of Edinburgh, is probably already known to most of our readers; but the following more particular account of the circumstances attending the sad event will be read with much interest:

"Science has to mourn the loss of one of its brightest ornaments, and the learned ranks of Edinburgh will not easily replace the void occasioned in them by the death of Mr. Hugh Miller. Last Wednesday week the painful intelligence of Mr. Miller's death rapidly became known, and an announcement to that effect, made at the *Witness* Office, confirmed the sad news. For some time past, it appears, Mr. Miller had been a victim to extensive cerebral disease. Excessive study and midnight labor—the worst species of mental exertion—induced even *his* mind to succumb, and the calamity of his death to follow as the result. Latterly, a moody apprehension that his mind was giving way had seized upon him; he was a prey also to the idea that he was a somnambulist, and nightmare, in its most violent form, so frequently attacked him as to render the body more wearied upon rising in the morning than it had been the previous evening. Professor Miller saw him the day before his death, and came to the conclusion that extreme mental exertion had weakened his whole system, affected his digestive organs, and threatened serious head affection. Prescribing a total discontinuance of work, early hours, and slight diet, Professor Miller and Dr. Balfour doubted not that their directions, if carried out, would substantially relieve the patient. But it was too late. Already cerebral disease had formed, and the severe paroxysms it had inflicted on him, rendered him during the interval unconscious, and entirely irresponsible for his actions. On the morning of Wednesday week, the body of Mr. Miller, half dressed, was found lying lifeless on the floor of his study. A bullet from a revolver had pierced the left lung, grazed the heart, cut through the root of the pulmonary artery, and lodged in the rib of the right side. Near at hand, a sheet of paper, inscribed with burning words, told too truly of the insane impulse which had induced the deed, and taken from Scotland one of her most zealous sons in the cause of science. The name of Hugh Miller is essentially linked to the science of his adoption—geology. With the Old Red Sandstone, especially, his name is inseparable. His own vivid powers of description, combined with his intimate acquaintance with his subject, have made his works pre-eminent above all others on geology of recent publication. His 'Footprints of the Creator, or the Asterolepis of Stromness,' intended to expose what he deemed the fallacies of the 'Vestiges of the Natural History of Creation,' is, perhaps, the most elaborate contribution the world received from his pen. There is one source of gratification left, melancholy though it be: his last great work, 'Testimony of the Rocks,' upon which, for the last few months, he put forth all his energies, and with such terrible results, was finished, and will soon come before the world, now invested with a sad and peculiar interest. 'I have finished it this day,' he said, with marked satisfaction, to Professor Miller, on the day before his death; and deplorable as the event is, yet it cannot fail to soften the anguish of his friends when they recollect that Hugh Miller was permitted to finish his great work, which he especially intended should harmonize the doctrines of science with Bible truths. It was the last epoch of a great life, well in unison with his sound religious views, Christian spirit, and kindly bearing. At the early age of fifty-four, Hugh Miller has been taken from the world he so adorned; but long will the memory of his genial disposition and kind nature remain green in the memory of those who knew him. Long will his friends remember each memento of the past, and zealously retain all they may possess of their connection with him. Those who knew him will, with the writer, now doubly feel the value of that knowledge, and hoard carefully all that may remain to them of Hugh Miller."—*Lancet.*

DR. JOHN A. PARIS.—Died, in London, on the 24th of December last, Dr. John A. Paris, President of the College of Physicians, and one of the most eminent members of the English profession. Dr. Paris was born at Cambridge, in 1785, and therefore passed the usual limit of man's life. Graduating in medicine at an early age, he devoted his long life with an intense zeal to his profession; and even at the ripe age of threescore and ten, took upon himself the laborious duties of President of the Medical Council of the Board of Health, and with his own hand wrote the introductory report on the cholera of 1854. He was actively engaged in the practice of his profession in London for more than forty-five years, and held the honorable position of President of the College of Physicians since 1844.

"Dr. Paris was not only known as a physician of the highest eminence—he was as remarkable for his literary ability. The life of Sir Humphry Davy will ever remain one of the classical biographies of the English language. In connection with Mr. Fonblanque he also wrote the Medical Jurisprudence, which has remained a text-book with lawyers until our own day. His works of a more professional character were his treatise on Diet, which first brought him into notice, and which was published at a very early age; his Pharmacologia, which has run through more editions than most books; and his work on Medical Chemistry. Besides these and many other publications, his Philosophy in Sport has attained an enormous popularity, and with his life, the motive for an incognito, which was never really maintained, has altogether terminated. In so brief a notice as the one to which we are necessarily limited by considerations of space, we can say but little more.

"The last ten days of Dr. Paris's life were spent in the midst of excruciating sufferings, which were borne with the most remarkable fortitude. His chief concern appeared to be to console and comfort those around him, who could ill disguise their grief at the impending and irreparable loss. His intellect remained to the last as clear as at any time of his life, and while power of speech remained, nobody who listened to him could believe that the end was so near at hand. The public and the medical profession have suffered great loss in the death of John Ayrton Paris, one of the most disinterested, honorable, and able men who have ever practised the profession of medicine. The grief of his own family, and of those whom he honored with his friendship, is not matter of public concern, save in so far as it may serve to show how this wise and good man was honored and beloved by those who knew him best."—*London Paper.*

THE

NORTH AMERICAN

MEDICO-CHIRURGICAL REVIEW.

MAY, 1857.

Analytical and Critical Reviews.

ART. I.—*Des Anévrysmes et de leur Traitement.* Par PAUL BROCA, Agrégé à la Faculté de Médecine de Paris, Chirurgien des Hôpitaux, etc. Ouvrage accompagné de figures intercalées dans le texte. Paris, 1856. 8vo. pp. 931.

(Continued from the March No.)

SECOND PART. TREATMENT OF ANEURISMS. At the commencement of his undertaking M. Broca says: "I shall have to fill up more than one historical gap, and I shall have to examine if certain modes of treatment, which empiricism has found, and which empiricism has afterwards abandoned, merit indeed the almost complete forgetfulness in which at the present day they are left. I shall have, moreover, to describe several very modern methods, such as galvano-puncture, and coagulating injections, methods that have not yet found their place in classic books, or that, scarcely indicated *en passant*, have not yet been the object of a didactic description. Finally, and above all, I shall enter into long developments concerning indirect compression, whose history, scarcely sketched in rough outline by my predecessors, has never been written in a complete manner."

The methods he describes are very numerous, and he thus groups them in a natural and scientific order in a table.

I. DIRECT METHODS.

METHODS HAVING FOR THEIR OBJECT THE SUPPRESSION OF THE TUMOR:

1st. The opening of the sac (method of Antyllus).
2d. Extirpation (method of Purmann).
3d. Cauterization.

METHODS HAVING FOR THEIR OBJECT THE MODIFICATION OF THE TUMOR:

1st. Styptics.
2d. Moxas (method of Larrey).
3d. Endermic method.
4th. Acupuncture (method of Velpeau).
5th. Harelip suture (method of Malgaigne).
6th. Malaxation (method of Fergusson).
7th. Application of heat (method of Everard Home).
8th. Application of refrigerants.
9th. Direct compression.
10th. Galvano-puncture (method of Guérard and Pravaz).
11th. Coagulating injections (method of Monteggia).

II. INDIRECT METHODS.

1st. Medical treatment (method of Valsalva).
2d. Ligature above the sac (method of Anel).
3d. Ligature below the sac (method of Brasdor).
4th. Ligature above and below the sac.
5th. Indirect compression.

III. AMPUTATION.

It will probably strike every one, on the perusal of this table, that in "filling up more than one historical gap," so as to find the true author of a method, a tendency is manifested to allow the names of his own countrymen to push out more conspicuously than any others.

The method of treating aneurism by *opening the sac*, is justly called the *old method*. As it was supposed that the gravity of aneurism arose from the deleterious qualities of the blood accumulated in the sac, in its treatment, the object was to rid the tumor of the blood contained therein. Hence arose the opening of the sac, the method generally known as the *method of Ætius*, as he is the first author by whom it is known to have been described. Ætius was a compiler of the sixth century, and his observations on "a dilatation of the vessels which the Greeks call aneurism," can be seen in Erichsen's Selections, the work before referred to. To attribute to him, however, the old method of treating aneurism is, according to M. Broca, an error which for the future he hopes no one will commit; (p. 207.) It appears from his account that it belongs to Antyllus, a surgeon, who "must have lived before the reign of Julian, called the Apostate, since Oribasus, the physician and friend of this great Emperor, has preserved several chapters of his works." Now, the XLV book of Oribasus, long considered as lost, was found twenty-five years ago, among some manuscripts in the Vatican, by M. Angelo Mai, and it has since been printed in Rome in the original Greek. The XX Chapter of this book is entitled, "On Aneurysm, extracted from Antyllus, his First Book of Surgery." M.

Broca gives the whole chapter. The fundamental idea of this surgeon was to evacuate the blood contained in the tumor, and it led him to institute the great method of opening the sac, and to avert the pressing danger of hemorrhage, a double ligature, applied, previously to the incision, above and below the sac, appeared to him to be indispensable. From this epoch down to the 17th century, there was no modification in the method of treating aneurism; at this time, the invention of the tourniquet, made by Morel, at the siege of Besançon, in 1674, by furnishing a means of arresting hemorrhage in the course of operations, gave rise to a very important modification, and allowed the operation, which on account of the difficulty of previously finding the arterial extremities, had been inaccessible to most surgeons, to become the usual practice. The surgeon could now first open the tumor, and this manœuvre, now free from danger, facilitated greatly the search for and ligature of the two ends of the artery. This method of operating for aneurism was the one generally adopted until 1785, when Hunter and Desault introduced another method, created by Anel, in 1710, but which had been neglected by most surgeons.

The next Chapter is devoted to the *double ligature*, or ligature above and below the sac, a method of treatment, to which, in his table, he assigns a different place. He believes that it was first employed by Pasquier, in September, 1812. There is no advantage whatever in cases of arterial aneurism, in the double ligature, and, on the contrary, many inconveniences in leaving in the sac an inorganizable mass of blood, that could only provoke inflammation. In varicose aneurism, however, when the blood could easily pass from the artery into the vein, the accidents resulting from the pressure of passive clots are not to be dreaded, and in the exceptional cases where varicose aneurisms must be operated upon with the knife, recourse should be had to this plan. M. Broca recommends Malgaigne's method of making two small incisions above and below the tumor, in place of a long one over its whole length.

Extirpation of the aneurismal tumor, called the method of Purmann, "who re-imagined the operation of the ancients condemned by Antyllus, and gave it his name," (p. 219), has been very rarely performed, and when it has been, generally by mistake, the surgeon mistaking the tumor for one of a cancerous or fibrous character. It is more serious and more difficult than opening the sac, which itself is inferior to most other methods.

M. Broca commences Chapter IV, on *cauterization*, thus: "Sprengel, who has written on the history of the treatment of aneurisms, a chapter where there are more errors than lines, pretends," &c. This is a mild accusation; in the edition we have seen this chapter contains seventeen octavo pages. "For this, the actual cautery and caustics have been used." "The actual cautery is only applicable when the tumor is very small and very superficial." "It is necessary to destroy the whole tumor, and to reach directly the artery, a thing often impossible, and always doubtful." "Whenever caustics have been made use of, the sac has been opened before the artery has been obliterated, even when the chloride of zinc was used, whose coagulating properties are very great." "This faithless method of cauterization should be almost entirely banished from practice; it can only be applied with security on the aneurisms of very small arteries, or at least on those that can be controlled permanently by means of a tourniquet or garrot placed above the sac, and for these cases many other modes more efficacious are in our possession;" (p. 226.) When the vessel is one of the large arterial trunks, and is so near the trunk of the body that the method of Anel is inapplicable, M. Broca says that he does not "dare to pronounce absolutely" that he would not use caustics, but that he would only have recourse to this method at the last extremity, and after having determined the inefficacy of galvano-puncture and coagulating injections; (p. 228.) We have no doubt that as M. Broca, in such cases, intends to use previously those methods, he will never have occasion to have recourse to the application of caustics upon the tumor, but we wish to exclaim against the principle, that guides M. Broca in all cases; namely, that the surgeon must do something. He might have learned from M. Nélaton, for whom he deservedly manifests great esteem, that in surgery, "il faut savoir se resigner," that the surgeon must know how to resign himself not to interfere when all interference must be dangerous. How M. Broca, after expressing, and with truth, we believe, such ideas as we have given above, translated from his work, can shortly afterward express hesitation as to whether he would not apply caustics upon an aneurism of a large trunk, situated near the trunk of the body, we do not understand. Any one, however, who would be inclined to listen to him so far, would in all probability follow him implicitly, and after coagulating injections and galvano-puncture, the patient is not likely to be harmed by the caustics.

Styptics or *astringents* have been applied to the skin covering the aneurism, with the object of giving to the walls of the artery the tenacity they have lost. This method of treatment is very ancient, and very inefficacious.

The application of *moxas* (method of Larrey), over the aneurism must be proscribed. It has been pretended that an inflammation would be propagated to the walls of the sac, by which the coagulation of the blood would be brought about; but this effect is very doubtful, and it is dangerous to alter the continuity of the skin covering the aneurism.

M. Thierry, and after him, many others, having previously denuded the dermis by the application of a blister, succeeded in coagulating, by applications of the perchloride of iron, the blood in enlarged veins. M. Broca, supposing that the perchloride could as well reach the arteries as the veins, thus cured an arterial varix of the scalp, and reports the case at length. It has never yet been applied in the treatment of aneurisms, properly so called, but he proposes to treat in this way "all aneurisms of the scalp and frontal region, and generally all aneurisms at once not voluminous and very superficial;" (p. 233.) It probably acts by provoking an inflammation which is propagated to their walls, for in the case of arterial varix the obliteration was only effected in five days after the application. "It acts by the production of passive clots, but they can only be injurious when they form a large mass, and their presence is without danger in small aneurysms." No name has been attached to this method, which may with justice be called, *the method of Broca;* it can only be his modesty, that has prevented him from taking what is justly his due.

Acupuncture, *Velpeau's method,* has been seldom employed in the treatment of aneurism. The paper of M. Velpeau on the subject is in the Archives Génerales, for 1831. He says: "He hoped not only that the vessel would be obliterated, but that it would be gradually obliterated,—a result vainly sought after by surgeons to this day. By thus insensibly closing up, the circulation would have time to seek new channels. Preserving their natural relations, remaining protected by the surrounding tissues, scarcely injured in their structure, the fear of consecutive hemorrhage would be less founded than after the ligature." (Loc. cit. p. 283.) This plan presents itself under theoretical appearances that render it very worthy of interest. When M. Velpeau left an acupuncture needle in the artery of a dog, a clot formed around it and the vessel was obliterated. Upon man, however, this desired result has never taken place, in the few cases in which it has been tried. The application of the needles to the sac itself, is the only one that M. Broca studies. "One needle is not sufficient to close the sac, and by using more, the chances of inflammation of the sac increase at the same time as those of fibrinous coagulation;" (p. 236.) "Acupuncture might do very well for small aneurisms, but it is not for small aneurisms that new methods are demanded; they yield to a great number, that only leave, so to speak, l'embarras de choix. What surgery seeks is a means capable of curing the aneurisms of large arteries without danger, and experience has already shown that in order to accomplish this end, acupuncture must not be counted upon;" (p. 239.)

In *Malgaigne's method* of treating aneurism, which is only applicable to small and superficial arteries, needles are passed through the tumor, and then a thread is passed around them as in a suture for hare-lip. (Malgaigne, Manuel de Med. Op. 6th ed. Paris, 1853, p. 203.) To the action exercised by the foreign body left in the tumor, is added the stricture produced by the thread. The greater part of the cavity is thus effaced, and the rest is inflamed and fills with clots. "Only suitable for small and superficial arteries, and for these there are other methods as inoffensive, whose efficiency experience has demonstrated."

Malaxation was imagined by Fergusson, for the purpose of breaking up and detaching pieces of the thick layer of coagulated fibrine lining the sac, which should be carried by the current into the lower end of the artery and stop it up. Two cases thus treated have been reported, one first published in the Medical Times and Gazette (Vol. I, p. 255), can be seen in the Medical Examiner of Philadelphia, for June, 1852. The termination of this case is not given in the journals, but it appears, "that the patient was doing well, and the tumor gradually diminishing, when, four months after the manipulations, the patient was attacked with so violent pain in the middle of the tumor, that he died from it in three days." The autopsy made it probable that the pain was owing to pressure on the brachial plexus, on which side the tumor had suddenly increased in size; (p. 244.) The second case, also by Mr. Fergusson, is reported in the London Lancet, for September, 1855, and also in the American Journal of Med. Science, for the following October. The Lancet "purposely abstains from giving the case in detail, as Mr. Fergusson expressed his intention of bringing the entire subject under the notice of the Medico-Chirurgical Society." We shall be glad to hear more of this method, of which we are inclined to have a more favorable opinion than the one given by M. Broca. He says that it is very uncertain and very dangerous, and that he "would always give the preference to one of those methods whose value has already been proved, such as galvano-puncture or coagulating injections, or even the method of Brasdor, of which malaxation is only a dangerous modification;" (p. 245.)

We do not think the method to be so very uncertain, or so very dangerous, as the methods to which M. Broca gives the preference. Dr. Carte, who has had great opportunities for observing the various phenomena which arise during the cure of aneurism (indirect compression is spoken of), believes that many, if not all of the rapid cures are effected by a loose clot blocking up the distal portion of the artery. (Dublin Quarterly Jour. of Med. for November, 1854, p. 320.) Dr. Colles, at the same time says, "that we can scarcely conceive it possible, that a cure which occupies 7, 10, or even 30 or 40 hours, could be effected by the slow process of a deposit, layer by layer, until the sac be filled. We see, also, that a similar result has been obtained purposely by the manipulation of the sac, a process which is too dangerous to be otherwise than exceptional in its application." For us, the exceptional cases would be those in which the aneurismal sac is so near the trunk of the body that indirect compression cannot be used. We would say here, in passing, that in a report made by Erichsen, on a case in which small fibrinous clots had been carried from one part of the circulating current to another, he says, "that in every instance which has fallen under his observation, pains in the limbs, sometimes of an intensely severe character, and occasionally associated with an exquisite degree of cutaneous sensibility, have been experienced." (Transactions of Path. Soc., London, 1856, p. 173.) In all cases undergoing indirect compression, in which this peculiar pain is suddenly felt, may we not believe it to be owing to the *sudden* arrest of the circulation in the artery on the distal side, and by a detached clot?

Application of heat is called the method of Everard Home, by M. Broca. It is attributed, the suggestion of it at least, to Monteggio, of Milan, in the work of Bellingham; (loc. cit. p. 98.) It exposes to prompt relapses and all the dangers of primitive and consecutive inflammation; (p. 249.)

Refrigerants having been used for ages in the treatment of aneurisms, M. Broca occupies a proportionate quantity of his own time in rectifying historical errors. He also speaks at great length of their action, which, whenever they have acted at all on the contents of the aneurism, has been the formation of passive clots. The following remarks are very just: "Many surgeons, counting on their harmlessness at least, have been in the habit of associating refrigerants with other methods, above all with indirect compression. Now, this is a serious practical error, for not only they do not aid, but they act in a contrary manner: one causes active clots to be deposited, the other passive;" (p. 263.) He advises the use of refrigerants in inflamed aneurismal tumor, and thinks that they may be a very useful resource, when the seat of the tumor opposes every operation, combined with the method of Valsalva; (p. 275.)

Direct Compression. Very different methods in which compressive means are had recourse to, bear the common name of *treatment by compression*, and it is a source of a great deal of embarrassment to one making bibliographical researches on the subject.

Mediate compression applied on the surface of the skin, must be distinguished from *immediate*, which is applied in the bottom of a wound or of a previous incision. Immediate compression can be applied on the aneurism itself, or on the artery at some distance; it can be, in other words, direct or indirect. Immediate compression, however, direct or indirect, is no longer called compression; it is made to enter in the two methods of ligature and of opening of the sac. Fifty years ago, however, it was not so, and any one who was ignorant of this, would be exposed to commit many bibliographical mistakes.

By *compression*, M. Broca means, simply, mediate compression. It comprehends three methods, *direct*, *indirect*, and *general compression of the* *limb.* Direct, is on the tumor; indirect, above or below the tumor. *General compression* of the limb there is no necessity for defining. It can be practised in two ways; sometimes a bandage is applied over the whole limb, and it exercises direct pressure on the tumor as it passes over it; at others, it is so applied as to exercise direct compression on the aneurism, and indirect compression on the arterial trunk. This latter is the proceeding of Guattani, nowadays abandoned.

After having given these general explanations, M. Broca enters upon the study of direct compression. As usual, a great deal of time is devoted to historical questions. It seems strange that this was not the first mode of treating a soft, pulsating tumor, but according to M. Broca it was indicated for the first time by the Arabs. We learn from Bellingham (loc. cit. p. 5), that Galen cured an aneurism of the bend of the arm by means of a sponge and bandage, but according to Broca it was not an aneurism, but a recent prick of the humoral artery. Not being able to consult the works of Galen, we leave the question where it stands. Sprengel, in his History of Medicine, a work towards which M. Broca, on all occasions, manifests great antipathy, says that Jean de Vigo, a physician of Genoa, who lived at the beginning of the 16th century, was the first to conceive this plan of treatment. Broca declares that the Genoese physician says not one word about aneurisms. Dezeimeris accorded the priority to the Abbé Bourdelot, who, Bellingham says, was the first to contrive and make use of a compressing instrument for the cure of aneurism. The letter of Bourdelot (1681) is to be found in Erichsen (Observations, &c., p. 207). Porter, in his valuable work, has made the mistake of supposing it to be the celebrated Bourdeloue, at which M. Broca expresses admiration. According to M. Broca, instruments like those used for hernia, were employed by the Arabs. At all events, direct compression was long used, and many instruments were invented, but, in spite of them, it could not have furnished many successes, for it was almost abandoned when Guattani modified it in a very important manner, by combining direct compression with indirect; and this will be studied elsewhere. The edition of Guattani that we have seen is in Lauth's collection of Latin writers on aneurisms, Strasburg, 1785. Lauth takes from the edition published in Rome in 1772, and says, page 5, "Quæ externis aneurysmatibus ferendæ curationes manuales sint, tentaminibus multis atque multifariis, edocuit Guattani."

M. Broca studies at great length the effects and the mode of action of direct compression, in order to see if it merits the neglect into which it has fallen. It has been employed as palliative, in order to arrest or retard the development of the aneurism; and as curative. When employed in the former way, "it effectively opposes the increase of the sac towards the surface of the limb, but the tumor increases in other directions. Besides, it prevents the skin from yielding to the pulsations of the sac; it accelerates the adhesion of the sac to the skin, and seems to provoke the rupture of the aneurism externally." He does not hesitate to reject it entirely. When employed as *curative* it presents several other inconveniences. When the aneurism is small, regular, superficial, and near the bone, a moderate pressure is sufficient to reduce it. Aneurisms at the elbow, when commencing, present these favorable conditions, and the compression can almost always be supported without difficulty. But when the aneurism is large and deep-seated, the pressure must be very considerable to prevent the blood from entering the sac. Very often the pain is intolerable; the skin has a great tendency to inflame and become gangrenous; the collateral circulation is greatly impeded, and gangrene of the inferior portion of the limb is liable to take place. In spite of these unfavorable conditions, however, some patients have been cured by direct compression, and it is interesting, therefore, to study the mechanism by which it acts.

Direct compression was supposed by Guattani to owe its superiority to its leaving the artery permeable; a circumstance supposed to be favorable against the occurrence of gangrene of the limb. Pathological anatomy, however, soon showed, that, contrary to all received theories, direct compression most generally caused the obliteration of the arterial trunk at the place of the aneurism. From one excess surgeons went to another, and it was pretended by Scarpa, as may be seen from the citation given above, that no aneurism could get well without the complete obliteration of the corresponding artery, and its transformation into a ligamentous cord. Scarpa does not deny that direct pressure can cure the aneurism, but he says the pressure must be carried so far as to produce adhesive inflammation of the proper tunics of the artery. M. Broca explains the diversity in the theories by the diversity of the real results, and allows to this method three very different methods of action: "sometimes it obliterates the tumor by passive clots; sometimes it causes the deposition of active clots; and, finally, it causes the tumor to retrograde slowly, and the aneurism is slowly cured by a special mechanism;" (p. 279.) The obliteration by passive clots is generally due to an inflammation caused by the bandage, which follows the same march as spontaneous inflammations, already studied. The second mode of cure is more rare, and M. Broca believes is always owing to some other method made use of at the same time, as that of Valsalva, or of indirect compression. Moreover, he believes, that in these cases, these methods have produced the deposition of fibrinous layers, in spite of the direct compression, "for it prevents the circulation of blood in the aneurism, and hence opposes the gradual deposition of the fibrine;" (p. 282.) It is irrational, therefore, in his view, to join this method to that of indirect compression, as many surgeons have done. In many cases it is impossible to refuse to admit that it has hastened the cure after indirect compression had been used for some time; in such, he says, that the tumor is too hard to be affected by the compression, which is, therefore, transmitted to the arterial trunk, in which the circulation is thereby diminished; (p. 283.)

The third mode of cure is much more common than the others, and is entirely special. The tumor, without ceasing to pulsate, becomes gradually smaller, and the aneurism disappears little by little. It is rather difficult, according to M. Broca, to understand this cure, for no matter how small the aneurism may be, unless the artery be obliterated, or the orifice of the sac at least, the cure could not be effected. Sometimes the artery is not obliterated, and when so, the agent of cure must be the closure of the orifice of the sac. Autopsies never show the edges of the orifice adherent; they are always separated by a small *bouchon*, very resisting, as solid as a cicatrix. This *bouchon* is continuous with a small solid mass of the same substance, situated in the place of the old sac. This, he says, would seem to indicate that obliteration had taken place by means of fibrinous clots; but if so, the tumor should have ceased to pulsate at a time when it was still of a certain size, and instead of that it preserved its pulsations to the last. He accounts for these phenomena by supposing that in all these cases, a layer of fibrine originally lined the sac, and that the compression gradually pushed it towards the orifice, and finally blocked it up. We ourselves believe, in accordance with the views we have expressed before, that this is erroneous, and that direct compression acts simply by the mechanical support it affords the sac. The process by which aneurisms are generally cured takes place in their walls themselves, and it is aided either by supporting them against the force of the blood, by direct compression, or by diminishing the force of the blood, by indirect compression. "At the bend of the arm the artery is superficial, the tumor is recognized very soon, the bone is near, and the osseous projections protect the collateral arteries, so that direct compression is wonderfully suited to such aneurisms." Aneurisms here are often varicose, and those which escape the action of most therapeutic means, are readily cured by direct compression. M. Nélaton has studied the succession of phenomena occurring in such cases, and he shows that the "double-current bellows-sound," and the peculiar thrill disappear while the tumor is still continuing to pulsate, showing that the varicose aneurism is first transformed into simple arterial aneurism, which is then cured.

The recapitulation of the principal points in the history of direct compression, is thus made by M. Broca. "We find that this method is always very uncertain in its results; that it is completely inefficacious in the greater number of cases; that it is often intolerable; that it exposes to inflammation, to rupture of the sac, to gangrene of the tumor, and to gangrene of the limb; that it ought to be absolutely banished from the treatment of voluminous aneurisms; and that it appears to be reserved only for small and recent traumatic aneurisms of the elbow;" (p. 298.) The light in which he regards this mode of treatment is certainly not the most favorable, but it is, at least, consistent with his views on the subject of the cure of aneurism, and we wonder therefore that it is so often employed by surgeons who hold the same opinions. May not this general employment, conclusive evidence of its value, notwithstanding what M. Broca says, be taken as strong proof, indirect though it be, of the erroneousness of these opinions?

Galvano-puncture (*Method of Guérard and Pravaz*).—As the result of his historical researches on this mode of treating aneurism, M. Broca has found, that the first idea belongs to M. Alphonse Guérard (1831); that the first experiments on animals were made by Guérard and Pravaz; that the first attempt on man was made by an anonymous surgeon in Paris, cited in a thesis, in 1837; and finally, that the first success belongs to M. Petrequin, in 1845. In this historical gap, Mr. Phillips and Dr. O'Shaughnessy have completely disappeared.

As galvano-puncture acts by producing a mass of coagulum, and also by producing inflammation of the walls of the sac, we are amazed to hear "that everything permits me to believe that ulterior researches, by perfecting its application, will render it at once more efficacious and less dangerous, and I would not be surprised that, sooner or later, it should become superior to the ligature; at the present day already, it is almost capable of entering into parallel with it; it has, moreover, the advantage of being applicable to certain aneurisms inaccessible to most other methods." This last advantage amounts simply to this: that it enables a surgeon to do something; whether that something or not be beneficial, is not the question, but he must be enabled to do something, he must have something *applicable.*

As the results of galvano-puncture have often been fearful, and as M. Broca, for some reason or other not very evident to us, is determined to advise its use, over seventy pages of his work are occupied in treating the subject. A great number of these were necessary in order to come to the historical results which we have given; others are occupied with his experiments on the coagulation of blood; others in a dissertation on galvanic piles; tension and intensity of electricity, occupy others; in short, it is an exceedingly tiresome chapter. The following points are those of most importance:—Galvanic clots do not possess any of the qualities of active clots. Very often, at the expiration of a few hours, they are broken up and carried away by the current of the circulation. When they remain they frequently give rise to consecutive inflammation, to suppuration and gangrene; and when an opportunity is given for their examination, they are found to be constituted of a soft and homogeneous substance, absolutely different from that constituting active clots. The analogy between galvanic clots and ordinary passive clots cannot then be misunderstood. This analogy, however, does not go so far as identity. Passive clots are composed of a mass of globules imprisoned in a network of fibrine. The greater part of the galvanic clot is likewise formed by the globules, and there is every reason for believing that a certain quantity of fibrine is also solidified; but there is a third element, which constitutes the distinctive character of the galvanic clot,—it is the coagulated albumen. M. Broca insists, at great length, and with force, on the refutation of the theory that galvanism acts by actual cauterization, and he shows that the scars in the skin are owing to the diffusion of the electrical fluid in the tissues traversed by the needles. As he believes that a want of perfection in the mode of operating has been the cause of failure, he insists much upon its details. He gives the preference to needles, varnished in the middle, about $\frac{1}{75}$th of an inch in diameter, and a great number of these needles are to be attached to each pole. Immediate coagulation must be sought for; and, whenever it is possible, compression should be made, in order to diminish the force of the current of the blood. The action of the currents must never be interrupted. The first galvanization should always be made with feeble currents, and at the following sittings the force should be gradually augmented.

The operation is very painful, it exposes to many serious accidents, and the effect, when obliteration is produced, is the production of a mass of clots that are generally carried away by the current, and, when they remain, act as passive clots. "Not only," says Erichsen, "is the principle on which it is attempted to procure obliteration of the sac in galvano-puncture a vicious and peculiarly dangerous one, viz., by the coagulation of the blood, and the inflammation of the wall of the sac, but the results that have hitherto been obtained by this method are not such as would justify a prudent surgeon, in submitting his patient to experiments of this kind, when he possesses so certain and comparatively a safe mode of cure as that by deligation or compression." (Loc. cit. p. 474.)

Coagulating Injections (method of Monteggia).—"Mr. Wardrop has suggested the injection of dilute acetic acid into the sac, with the view of causing the formation of a coagulum," says Bellingham (loc. cit. p. 114). But he does so, in the article he has written on aneurism in the Cyclopædia of Practical Surgery, after citing the proposition of Monteggia. At the commencement of 1853, Pravaz used the perchloride of iron, and in the month of November, when Malgaigne read a communication to the

Academy on the subject, already 11 persons had been operated upon, resulting in 4 deaths, 5 serious reverses, 2 cures. Moreover, these two cures were obtained "at the price of such accidents, and with doses so exaggerated, that in place of praising the operators, he blames their imprudence." The discussion may be seen in the Arch. Gen., 5th series, vol. 2, p. 741. M. Broca devotes fifty-two pages of his work to this method of treatment, where the mode of operating is described very minutely. The dangers of this method are very great, and there is no known way of avoiding them. Every liquid that gives rise to very prompt coagulation of the blood, and to a very solid clot, has a very irritating action on the tissues of the body, and it is much to be doubted if any will ever be found that has not. The perchloride of iron produces a very firm clot, and there is no example where the pulsations have reappeared, when once entirely suppressed. It is dangerous on account of its irritating action, and on account of the consecutive inflammation.

It is indispensable to withdraw the tumor, during the whole operation, from the shock of the blood, for the action of the perchloride is never instantaneous. In all experiments, in which the blood withdrawn from the body was mixed by means of a glass rod with the perchloride, at least thirty seconds elapsed before the coagulation of the blood; and thirty seconds represent thirty arterial pulsations: hence the blood in the sac would be renewed, and the perchloride carried away. It would be folly therefore to attempt to throw the injection into an aneurism, inaccessible to Anel's method.

This solution of the sesquichloride of iron, called perchloride by the French, is not the Tincture of the Chloride of Iron of the United States Dispensatory, as is stated in that work. It is a solution of much greater strength, prepared in a peculiar manner.

M. Broca has here finished the study of the direct methods of treatment, and commences the indirect, or those in which the aneurism is acted upon only by the intermedium of the circulation. The first he considers is the *Method of Valsalva*, the name which is given to the *ensemble* of means, that have for their object to diminish the energy of the general circulation. The idea of bleeding persons affected with aneurism is certainly anterior to Valsalva, but he made diet and bloodletting a regular method, which he applied several times with complete success. He prescribed bleedings, repeated at short intervals, an absolute repose in bed, complete tranquillity, and a regimen of truly frightful severity. By this treatment, undoubted cures have resulted, and as Hodgson has shown, these cures are entirely similar to natural spontaneous cures, or those that result from fibrinous depositions; which he, as most authors, believes to come from the circulating blood. Hodgson thus ends that portion of his work devoted to the spontaneous cure and medical treatment of aneurisms. "The deposition of coagulum in the cavity of the aneurismal sac and the artery leading into it, is the mode by which the spontaneous cure of aneurism is, in most cases, effected. The formation of coagulum being a general occurrence in aneurisms, it is an important object to prevent the increase of the sac, that the deposition of the coagulum may proceed to such an extent as to obliterate the cavity. It is the force of the circulation which causes the enlargement of the sac, and its ultimate rupture; hence the diminution of the force of the circulation is the principal indication in promoting the cure of aneurisms." (Loc. cit. p. 163.) In a purely pathologico-physiological point of view the method of Valsalva is superior to every other, unless it be indirect compression, but in a practical point of view it is the contrary. Many patients cannot support it, and in many cases the advantageous effects of the depletion produced by the bloodletting are neutralized, and more than neutralized, by the effect it produces on the blood. Dupuytren says, "that he has remarked that it diminishes the resistance of the walls of the aneurism more than it enfeebles the heart's action; and further, that when the surgeon, tired of trying this mode of treatment ineffectually, begins to supply the patient with nourishment, with a view of operating, the tumor, surrounded by parts which have lost their elasticity, advances rapidly under the influence of the *vis à tergo*." (Loc. cit. p. 29.) M. Broca says, "The method of Valsalva, properly so called, should only be put into use in desperate cases, when the elements comprising it render important services in a great number of cases, when they are employed with moderation, and they ought consequently to be always present in the mind of the surgeon." (Page 436.)

The blood in the arteries circulates under the influence of two principal causes, pressure and impulse; the former from the arteries, the latter from the heart. The force of the impulse of the heart varies in different animals; the pressure is always about the same: it is about 120 millimeters, that is, it is capable of raising a column of mercury to that height. In a rabbit, every time the heart beats, the column is raised 5 millimeters more, in a dog 12, in a horse 40. It is thus seen that though the force of the impulse varies, it is always far less than that of the arterial pressure. The force by which an aneurism is distended is therefore principally arterial pressure. To show the influence of the quantity of blood upon this force, in one experiment we saw made by M. Bernard, while before the bloodletting the pressure was 141 millimeters, afterwards it was but 57. What an enormous reduction can thus be effected in the force with which the blood distends an aneurismal sac! At the same time, however, the impulse of the heart is much augmented; and the effect of bleeding upon the blood is unfavorable to the production of those changes in the walls of the sac, which we believe lead to cure. The experiments of M. Bernard show that some substances influence the arterial pressure otherwise than by mere quantity, that is, by merely influencing the bulk of the circulating liquid. Coffee does so to a very great degree, and therefore should be strictly interdicted. The respiration of the patient should be made as free as possible, for the arterial pressure is thus very much diminished. In expiration there is constantly an augmentation of pressure, which a cough or sneeze produces very suddenly, so that it is not rare at such moments to see an aneurism burst. The influence of the nerves is also very marked, as some experiments made with galvanism show, but this action is out of our control. There are a multitude of considerations on the causes influencing the general circulation; all of which are concerned more or less in the treatment of aneurism by the method of Valsalva. This chapter, which M. Broca might have made one of the most interesting and instructive in his whole volume, is singularly the contrary. We make, however, the following extract from it, as illustrative of his style. *Le style, c'est l'homme.* "Let us pardon the great Morgagni, who was however the pupil and friend of Valsalva, for having been able to believe that one of the writers known under the name of Hippocrates had been the inventor of this method. The Hippocratic legion did not even know how to distinguish arteries from veins, and consequently was ignorant of the very existence of aneurism. A total absence of critique, a blind confidence in the omniscience of the ancients, have alone been able to cause the acceptance of the unsustainable opinion of Morgagni. Thus, Hodgson, speaking of the medical treatment of aneurism, says that this practice, suggested by Hippocrates, was confirmed by the experience of Valsalva; and Pelletan himself, after having found by examination that the Hippocratic text had reference to a very different affection from aneurism, does not hesitate to say that Valsalva *must* have found the idea of his method in the writings of Hippocrates. This manner of writing history is very easy. The fact is, that the author of the treatise 'De Morbis,' giving a fantastic description to I know not what disease of the lung, that commences by varix and ends by suppuration, has advised to treat by diet and bleeding the patients, who, by chance, would be attacked with this imaginary disease;" (p. 420.)

The ensuing 440 pages, from page 437 to 877, are devoted to the ligature above the sac, the ligature below the sac, and indirect compression.

The method by ligature above the sac, M. Broca designates as the method of Anel, "as it is just that the name of a man should be attached to the progress that he has realized." As to the *operation* of the ligature upon an arterial trunk, he very properly says nothing about it; it belongs no more to the history of aneurisms, than to that of arterial wounds. We will give a *résumé* of this Chapter, the 17th, for we think it most admirable.

It was Anel, in 1710, who first operated thus for aneurism, upon a case of traumatic aneurism, at the elbow-joint. In the reflections following the history of the case he says: "Instead of placing a ligature above and below the aneurism, I only did so above; moreover, surgeons open the aneurismal sac, and I did not touch it, not doubting that the blood contained in the sac would be dissipated, and that the sac once emptied would not again be filled; that the tunics of the membranes forming it would not fail to diminish, and that thus the tumor would disappear; this did not fail to happen as I had thought." This shows that Anel knew what he was doing, and why he did it; that he was led by his knowledge to give up opening the sac, and thus he created a new method. For three quarters of a century this method was applied only to the aneurisms of rather small arteries. It was in 1785 that it was applied for the first time to the treatment of popliteal aneurism, by Desault. The patient recovered, dying of necrosis of the inferior end of the tibia. In December, 1785, six months after Desault, John Hunter operated for popliteal aneurism. Instead of searching for the popliteal artery, Hunter tied the femoral before it passes through the sheath of the adductor muscle. His object in so doing was to find a spot where the artery would certainly be healthy; believing that the obliteration provoked by the ligature was the result of union by first intention, and that this adhesive process was only possible in arterial walls free from all alteration. He believed that by tying the artery at a distance from the aneurism, that he would avoid the section of the arterial tunics, and the production of consecutive hemorrhages, which, however, experience has shown to be as frequent after his mode of operating as after that of Anel and Desault. All the theoretical reasons by which Hunter was led to leave, a little, the way of his predecessors, are false. Hunter invented a useful proceeding, but he did not create a new method. His first patient dying fifteen months after the operation, he afterwards found, at the autopsy, that the ligature acted simply by causing solidification of the blood, and although he drew no distinction between the two kinds of clot, this discovery was a true progress. There is no reason why this method should receive the name of the Method of Hunter. The idea was not his, of replacing, by a simple ligature applied above the sac, the cruel operation of the ancients; this idea belongs to Anel. He is not the first who put this idea into execution. He was not the first to attack the great arteries by it. He did not have the first case of success. Finally, it was not Hunter who discovered the mode in which the ligature acts upon the walls of the artery. It may be said that, by applying the ligature at a distance from the sac, that he found the best proceeding, the best way of performing the operation, but the proceeding of Scarpa has received the preference at the present day, and should this method be called the method of Scarpa, until another surgeon shall have shown the advantages of another place for the application of the ligature? M. Broca says: "Far from me the thought of seeking to diminish the glory of the great Hunter, whose indefatigable genius has exercised so great an influence on the destinies of science. England is justly proud of having produced this surprising man, who I consider, for my part, as the principal creator of pathological physiology;" (p. 464.) At all events the labors of Hunter have caused the adoption in general practice of the method by ligature. Its triumph was legitimate, for compared with the other methods, it must be considered as excellent. The hopes it had aroused, however, have not been realized; statistics show that it is one of the most serious operations in surgery; that it is followed by the death of the patient in nearly one case out of three. These statistics are cited further on; the mode in which the ligature acts and the causes of the accidents it produces are first studied.

The method of Anel can be applied in two very different ways: the ligature may be tied immediately above the sac, according to the proceeding of Anel, or at some distance, according to the proceeding of Hunter. Each of the proceedings has its respective advantages and inconveniences. The real difference between them, however, is not that maintained by the schools of Hunter and of Scarpa. Whatever may have been said, the structure of the walls of the arteries is almost always unaltered in the neighborhood of external aneurisms. When it is otherwise no one can tell how far the alteration extends, and wherever he places the ligature, the surgeon is liable to fall upon a diseased vessel. When the arteries are diseased the cellular coat is almost always intact, and what difference does it make if the others be more brittle than they are normally, since it is desired to divide them at once? If the proceedings differ in some respects, it is by their action on the aneurismal sac, and on the general circulation of the limb.

In Anel's proceeding there is no collateral between the ligature and the sac; in that of Hunter, on the contrary, the portion of the artery comprised between these two limits gives off one or several branches of various sizes, capable of bringing again into the aneurism a certain quantity of blood by means of anastomoses. The distance between the sac and the ligature does not, by itself, exert any influence either on the tumor or on the general circulation of the limb. Everything depends upon the presence or the absence of intermediary collaterals, their number, their size, and their connections. Therefore, without paying any attention to the spot where the ligatures are placed, the applications of the method of Anel are divided by M. Broca into two categories, those that leave, and those that do not leave any collateral between the aneurism and the constricting thread. All operations of the first category are brought by him into the proceeding of Anel; all of the second, into that of Hunter. It may be objected to this, that these two designations have been turned from their primitive designation, and that the question of intermediary collaterals did not preoccupy either Anel or Hunter. The question is not, however, what these two surgeons intended, but what they did, and classing the proceedings after their mode of action, M. Broca is certainly authorized in his nomenclature.

The effects and mode of action of the method of Anel, that is to say the modifications it causes, in the artery tied, and in the neighboring parts, in the general circulation in the limb, and in the tumor itself, are treated with great ability. The effects on the whole economy, the fever, the nervous irritation, and the visceral congestions, belong to the history of the ligature in general, and offer nothing particular when the ligature is applied to the treatment of aneurism. The direct effects upon the artery offer nothing special, and, in accordance with the views which he has already given, M. Broca does not study them here. The fall of the ligature is often preceded, accompanied, or followed by hemorrhages, called consecutive, furnished either by the superior or the inferior end. Phlebitis is much more common than most authors believe. Another accident much less known, of which M. Broca gives a remarkable example (p. 479), is nevritis. Purulent collections take place sometimes in the common sheath of the vessels. These are the special accidents provoked by the ligature; to this all the ordinary accidents of wounds, erysipelas, diffused phlegmon, tetanus, &c., must be added. "It is but a trifling merit," says Dupuytren, speaking of the application of a ligature for aneurism, "it is but a trifling merit to acquit one's self well in this, the mechanical part of our profession; but the most consummate art is insufficient to insure success and guard against accidental circumstances, which may arise in the after treatment." (Loc. cit. p. 13.)

In the circulation and the nutrition of the limb, the phenomena caused by the action of the method of Anel are proportional to the importance of the vessel tied; and in their study, M. Broca takes as a type, the ligature of their principal artery. When the flow of the blood is arrested therein, it passes by collateral ways, which are of two orders, the arterial collaterals, and the innumerable capillary communications, which form in all vascular parts of the body, and, above all, in the skin, a vast uninterrupted network.

At the moment of tying the artery, the arterial system of the limb, suddenly removed from the influence of the heart, ceases to pulsate, and empties itself into the veins. Most generally the skin becomes pale, and if left exposed to the air, it becomes, in a few moments, very appreciably colder. As a general rule, the cooling of the limb is but temporary, and, at the expiration of one or two hours, gives place to an elevation of temperature, which may be even 5°, 6°, or 7°. This phenomenon at first appears strange, and must be inexplicable to those who concentrate their whole attention upon the arterial anastomoses. It is owing to the capillary anastomoses, which form so rich a network in the skin. The blood enters these capillaries in a greater quantity than usual, and the skin receiving a greater quantity of blood than is normally destined to it, becomes hotter than on the opposite side. There is another cause for this: the constriction of the artery inevitably produces that of the filaments of the sympathetic nerve accompanying it, and the curious phenomena, discovered by M. Bernard, attending injury of this nerve, are well known. The explanation of M. Brown Sequard of these phenomena, is the one adopted by M. Broca; we are by no means inclined to agree with him, but this is not the place to discuss the question. When the arterial anastomoses are large and numerous, the circulation is promptly re-established, and the part of the capillaries is feeble and very soon over. The surgeon is tempted to believe that the exaggeration of temperature is a good sign, and that the limb is less exposed to gangrene the warmer it becomes. This is not so, for the exaggeration of temperature shows on the contrary that the profound circulation in the limb is very insufficient. The collateral capillary circulation is a momentary resource, whilst the arterial anastomoses furnish a definite one.

Thanks to these two collateral circulations, gangrene is very rare after the application of a ligature, when applied for hemorrhages, recent wounds, or tumors not aneurismal. Why, then, is it so common when aneurisms are treated by the method of Anel? It is on account of the arterial obliteration produced almost inevitably at the tumor. It is here, above all, that it is necessary to distinguish the proceeding of Anel from that of Hunter. In the former there is no collateral between the aneurism and the ligature, consequently the obliteration due to the ligature and that which is accomplished at the tumor, are confounded in one and the same obliteration. The course of the blood is intercepted from the first collateral above to the first below, just as in a simple ligature. There is very little danger then from gangrene. In the proceeding of Hunter it is different, and things are changed; the chances of gangrene are carried to a maximum. This is clinically demonstrated in the paragraph devoted by Broca to the general results of the ligature; (pp. 591, 611.) This may be known from a few theoretical observations. Take a particular case, for instance a femoral artery tied in the middle of the thigh for popliteal aneurism.

Immediately after the ligature the collateral circulation commences to take place in the midst of very favorable conditions, from the number and size of the anastomoses existing between the deep femoral, and the superior branches of the popliteal. It is now that the obliteration which takes place at the aneurism is effected, an obliteration, consequently, below the origin of the arteries, the superior branches of the popliteal, which have so far been bringing the blood to the limb. A second collateral circulation must be established between these superior branches of the popliteal, arising above the tumor, and those below it. It will easily be imagined that the chances of gangrene are not only doubled, but rendered tenfold greater. Few patients would escape without the resource, unfortunately uncertain, afforded by the capillary anastomoses. In order to render the operation of Hunter less murderous, from the gangrene, several things have been done to which M. Broca pays some attention. Efforts have been made to obliterate the vessel by degrees, by a gradual ligature, applied for the first time by Antoine Dubois. This gradual ligature, properly managed, offers several advantages which are not to be disdained. The ligature is left for but five or six days, so that the wound is soon relieved of the presence of the foreign body, and the ligature is large and temporary, so that the artery is left permeable. The great cause of gangrene being the obliteration at the level of the aneurism, at the moment the organism has just triumphed over the superior obliteration produced by the ligature, the oblation of the ligature restores to the circulation the requisite energy. The superiority of the gradual ligature over the ordinary in the proceeding of Hunter, does not seem to M. Broca contestable. Indirect compression, that is, compression exerted upon the integument, has, however, all the advantages of the gradual ligature without its disadvantages, it is therefore preferable to it, and still more so to the ordinary ligature There is another accident, following the obstacle opposed to the circulation by a ligature: the limb becomes atrophied and powerless. This, which has been attributed by some authors to a defect in innervation, is attributed by M. Broca to defect in the circulation.

The position of the ligature effects most importantly its mode of action on the aneurismal tumor. When a collateral artery exists between it and the sac, the blood will be brought into the artery between the ligature and the sac, and at once retaking its natural direction, it will pass through the tumor exactly as before the operation, only much more slowly. By Anel's proceeding the blood can only enter by the inferior end, and it can only enter into the aneurism by a sort of reflux. The proceeding of Anel will produce passive coagulation, while that of Hunter will more readily obliterate the sac by active clots.

As a general rule the aneurism, collapsed at the moment of ligature, soon again swells; it most generally does not again become pulsating. When it does, it is by no means unfavorable, for the blood is kept in a state of agitation, proper to prevent obliteration by passive clots. Therefore, the method of Anel may act in two ways: by passive clots, which have already been spoken of, and by active. As it is impossible by the ligature to regulate the quantity of blood passing through the tumor, the method of Anel is very uncertain, as Bellingham has clearly pointed out. (Loc. cit. p. 142.) M. Broca then studies these two modes of action of the ligature, and lays great stress upon consecutive hemorrhage, not that which may be furnished by the artery at the level of the ligature, but that resulting from the opening of the sac, inflamed by the passive clots therein contained,—an accident, very formidable, not at all unfrequent, and which most authors have passed over in silence.

The article on secondary pulsations and relapses of arterial aneurism, treated by the method of Anel, is very long. It is necessary to make a distinction between persistence and return of pulsations and relapse. M. Broca seems to think no one before knew that relapse could take place. Bellingham says, "a cure affected by the ligature can only be permanent when it causes the aneurismal sac to be filled up, and the artery to be obliterated at its seat, after the same manner as by compression. If a loose coagulum of blood merely forms in the sac as a result of the ligature, there is danger either of the sac suppurating, or a secondary aneurism may form at the part." (Loc. cit. p. 173.) M. Broca arbitrarily places in the category of relapse, cases where the tumor takes up and preserves *for more than four months*, the character and march of aneurisms, and again divides relapses into two categories,—prompt relapses, and tardy relapses. The first being those which arise when the patient is still under treatment, and the tardy, those which arise afterwards. As to the treatment of relapse, there is much in length; it only amounts to this, try another method.

In the sixth paragraph, devoted to the effect on arterio-venous aneurisms of the method of Anel, there is not much to notice. His theory for explaining the frequency of gangrene is the following. The capillary anastomoses emptying their blood at once into the veins without the intermedium of the artery, the venous system of the limb operated on receives a greater quantity of blood than the arterial, and the blood passes from the vein into the artery at the opening of communication. As the collateral arteries become enlarged, there is, first a flow from the artery into the vein during the arterial diastole, and then from the vein into the artery during the systole, until, finally, there is a continuous and *saccaded* arterio-venous transfusion. This mixed blood, returning again and again into the same limb, without undergoing pulmonary hematosis, is unfit to sustain the nutrition of the limb, and it becomes gangrenous. Again, passive coagulation is prevented by the incessant renewal of the liquid, and active, by the nature of the blood. "It is then, with justice, that the method of Anel is nowadays banished from the treatment of arterio-venous aneurysms;" (p. 591.)

Under the paragraph entitled general results of the method of Anel, by discussing the tables collected by Phillips, Porter, Lisfranc, and above all, by Norris, of Philadelphia, "to whom science owes such important statistics on the results of surgery," M. Broca shows that the method of Anel, though one of the most remarkable progresses of surgery, still, is very deadly. "If now we consider the frequency and gravity of the accidents provoked directly by the application of the ligature,—such as phlebitis, consecutive hemorrhage, and mortification of the limb,—accidents that make it one of the most murderous operations of surgery; if we think that this risky operation has not even the advantage of acting properly on aneurisms, and that, inferior in this respect to any other methods, it very frequently causes passive clots to be deposited in the sac, followed by inflammation, by suppuration, by rupture, by formidable hemorrhages; if we recollect that it exposes to atrophy, to paralysis, to retraction of the limb, the persons it does not kill; if we add, finally, that among the successes attributed to it, figure many patients mutilated by consecutive amputation, and many others, who, after having passed through so many dangerous risks, have had the pain of seeing their disease return,—we arrive at this conclusion, that the method of Anel is dangerous, uncertain, defective, and that, far from constituting the beau ideal of the treatment of aneurisms, it only ought to remain in surgery as a sort of *pis-aller*;" (p. 611.)

Chapter XVIII. (Method of Brasdor.)

The history of the method by ligature below the sac, and of the modifications it has undergone, is done by M. Broca, with great care. He believes, from his researches, that Brasdor instituted the method, that Deschamps first dared to execute the idea, and that Wardrop obtained the first success, and by leaving a collateral between the sac and the ligature, created a new proceeding, which, by extending the sphere of application of the method of Brasdor, has enlarged the boundaries of operative medicine; (p. 626.) The phenomena resulting from the action of the ligature on the artery and on the circulation resemble, in many respects, what has been studied *à propos* of the method of Anel. Gangrene and consecutive hemorrhage he believes to be less frequent than after the method of Anel. That curious problem of pathological physiology, that the aneurism is immediately collapsed when the artery is tied between it and capillaries, he cannot solve. After a repetition of what has been said of active and passive clots, he says, that the only thing which really argues against the operation is the uncertainty of its effect on the aneurism, an uncertainty, which, as he can attribute it to nothing else, he assigns to the individual plasticity of the blood. Of fifteen cases operated upon, according to the proceeding of Wardrop, nine died from the operation; of the six others two were cured, a third was followed by a relapse at the expiration of two years, and in three cases the ligature did not prevent the tumor from making new progress. The proceeding is then very dangerous, and very uncertain, but, as without it death is inevitable, M. Broca concludes that it should be applied to the treatment of certain aneurisms, those of the arteria innominata, and of the internal extremity of the subclavian.

The Lancet for June, 1856, mentions a case, where the right common carotid artery was successfully tied by Dr. Wright, of Montreal, for an aneurism of the innominata involving the roots of the common carotid and subclavian arteries. The ligature caused solidification and reduction of the arterial tumor; the patient, a man seventy years of age, survived the operation nearly three months, dying of hemiplegia. It was the occasion of a paper in the Medical Chronicle for March, 1856, in which Dr. Wright, carefully analyzing the various accounts given of this operation, concludes that there still exists abundant justification to warrant a surgeon in again treating innominatal aneurism by ligature of the right common carotid artery.

The 19th chapter is devoted to indirect compression, that is from page 652 to 877. Indirect compression consists in the application of any mechanical apparatus, destined to compress the artery, either above or below the tumor. The compression below the sac, M. Broca declares is so very unimportant, that he does not study it separately, merely indicating some parts belonging to it. His historical researches on the subject occupy ninety-two pages. Of what Mr. Bellingham has done to elucidate these questions, he says, "Although he has consecrated three-fourths of his work to historical considerations on the subject of indirect compression, the Dublin professor has passed in silence a crowd of documents of greater importance, and has grouped the others quite confusedly." He grants, however, that "in spite of these imperfections, Mr. Bellingham has succeeded in writing a book at once interesting and useful," (p. 654.) The statement that three-fourths of his work have been devoted to historical considerations is a great exaggeration, and it has been a fortnnate thing for M. Broca that it is so; but at the same time he should not complain of Bellingham's historical researches, all comprised in 83 pages, for he has made excellent use of them.

In order to simplify the question as much as possible, M. Broca restricts himself as much as he can to the history of indirect compression, or that exerted on the artery without touching the tumor. He then divides the history into three periods, first the *preparatory* period, "when the compression was only exerted as an aid, and without any very decided object."

This is the *Italian period*, and extends until the end of the eighteenth century. 2d. A period of *creation*, "where the indications and mode of application were clearly established, and where compression employed alone obtained a great number of successes, mingled with still more numerous failures." This is the *French period*, it extends to the year 1842. The third is a *period of application*, "when skilful surgeons, with ingenious patience, put in practice principles established during the third period, and obtained by care and perseverance successes, that have thrown those of the ligature into the shade." This period, he says, deserves the name of *Irish period*. This is a strange division of periods, particularly for one who shows so much indignation on the occasion of the Irish polemics. "They disputed to know who had cured the first patient in that islet, they call Ireland, as if chance could be a title of glory, as if science was not of all lands!" (p. 709.)

He insists long on the first attempts of the art, and the numerous checks that preceded the first official success of indirect compression. This first official success, the first time that indirect compression gave a really surgical success was, he says, in a patient of Eschards, treated in the commencement of the year 1801; the treatment lasted eleven months. This is M. Broca's arrangement of the surgeons, the patients, and the dates, and he speaks thus of the history given by Boyer, who, according to his (Broca's) own account, was one of the surgeons in consultation, who advised the treatment. "The vague souvenir of something that had been related to him, mingled with a souvenir just as vague of another history, which he had read in Lassus, were grouped in the memory of the honest Boyer, around a third fact, which he had seen himself *en passant*." Science belongs to no country, nor to any political creed, and if Boyer was made baron by an emperor of France, he still was one of her greatest and most reliable surgeons. The same may be said here in regard to Dupuytren, baron by a king of France, who is treated generally almost with contempt by this republican author; Dupuytren, whose dexterity, coolness, boldness, and inventive mind, place him in the highest rank of surgeons. M. Broca is angry with Boyer, because he wishes to have a case treated by indirect compression in France before one of Blizzard, of December, 1801. We can find no date attached by Boyer to his history of this case (Mal. Chir. (1814) tome II, p. 204); which Broca says he dates 1814. Bellingham places the case about the year 1810. This must be wrong, however, for, in the volume, it precedes a case (the one of Michaux) treated in 1804. It may be said here, that Boyer's expressed opinions on the subject of indirect compression, are by no means very consistent. He teaches (loc. cit. p. 131) that, as a general rule, it is not admissible in the treatment of aneurism of the femoral artery, because by pressing against the pubis, you renounce the benefit of the communications given off by the profunda, the only resource for the circulation; and at the middle of the thigh, you would be so near the tumor as to endanger its inflammation. And yet, he teaches, that before the ligature it ought always to be employed, "because if it does not cure it insures its success;" (p. 129.) He also teaches that the compressive means should act with sufficient force to prevent the blood from reaching the tumor.

It was Dupuytren who first showed that in arteries treated by compression, the vessel was not obliterated by adhesion of the walls, nor by coagulation of the blood. As the Irish surgeons fought amongst themselves, at this period, Broca indulges himself in thrusting here and there, now at Todd, now at Bellingham, now at Wilde. He says that he feels himself obliged to relate all this quarrelling; why he is we know not, unless it be to gratify his vanity by showing his acquaintance with it; or he may be instigated by a feeling that in some minds takes the place of gratitude. "The surgical world will learn no doubt with reverential awe, that the patient of the deceased Todd, was cured after that of the deceased Duggan, but that deceased Duggan made use of the apparatus of deceased Todd;" (p.710.) The most important epoch in the history of indirect compression was reached, so M. Broca says, the 25th February, 1825, when Guillier Latouche sustained at Strasburg an inaugural thesis, entitled: "*New way of exercising prolonged mediate compression on the principal arteries of the limbs.*" In this thesis, the author says, or rather an anonymous instigator of the thesis says to the author who repeats, that several tourniquets should be used, and alternately made to press on the vessel. This anonymous inventor of the new proceeding had already treated a patient in the service of M. Gama. In order to find his name, M. Broca vainly read through the theses and journals of that time; he vainly appeals to the souvenirs of surgeons who lived at that epoch; all taught him nothing, until as a *last resource,* he addressed himself to M. Gama, and "penetrated into the retreat where this professor, become philosopher, forgets the injustice of men." After some difficulty, M. Gama finds that these ideas on the effects of compression, and the manner of conducting it, belong to M. Belmas, then at the head of the dissecting rooms of the faculty of Strasburg; but who, as M. Broca informs us in a note, to forget nothing of this interesting history, has long ago abandoned the medical career. *Multiple and alternative compression* is therefore designated by M. Broca under the name of *Proceeding of Belmas.* M. Broca graciously pardons the surgeons of Dublin for their ignorance, in 1843, of an obscure thesis, sustained in Strasburg in 1825, and does not wish to accuse them of the design of robbing M. Belmas of what is his due.

In 1843, commences the period of application, or *Irish period,* as M. Broca calls it,—"The application of the principle of alternate and multiple compression, which Bellingham claims as his own." Nothing can be more modest than the manner in which Mr. Bellingham recounts this history, at page 94, &c., of his book. M. Broca exclaims, "Why must Bellingham have spoiled so good a cause, by refusing to his predecessors the homage due to their efforts and their discoveries?" Surely Bellingham was justified in ignoring what M. Broca had the greatest difficulty in discovering; that a M. Belmas, once a surgeon, suggested something to a M. Gama, once a surgeon also, a method that was once applied in a military school at Strasburg, and unsuccessfully, the ligature being afterwards placed on the vessel. "For us, who have followed step by step the origin and development of the ideas on which nowadays repose the compressive method, we cannot award to M. Bellingham any other invention than that of an apparatus of quite mediocre importance; we mean the compressing weight. Brückner, Eschard, Dubois, Dupuytren, and many others, and above all, M. Belmas, whose precious doctrine Guillier Letouche has transmitted to us, have preceded M. Bellingham;" (p. 738.) While in Ireland, Scotland, England, and America, they were curing aneurisms thus, there was nothing done in France, and the principal reason, according to M. Broca, "is perhaps, that tendency of the French mind, which leads us so often to disdain innovations of foreign origin." "Let us forget," he adds, "in the interest of our patients, that this new progress comes to us from a foreign country; or rather, let us remember, in the interest of truth, that it is really of French creation."

In the paragraph on *the mode of action of indirect compression*, there is nothing to be noticed. He agrees with Bellingham as to the mode of action, namely, that by rendering more slow the flow of the blood in the aneurismatic artery, indirect compression favors the spontaneous and progressive coagulation of the fibrine, and imitates as much as possible the process that leads to the natural cure of aneurism. From a number of autopsies, at very various periods after treatment by indirect compression, M. Broca draws the same conclusions drawn by Bellingham from a smaller number, here as elsewhere saying the same thing, but in a far greater space. These conclusions are: "That indirect compression does not provoke the obliteration of the artery at the level of the compressed point; and second, that it acts on circumscribed aneurism by causing the deposit of active or fibrinous clots; consequently, it does not expose the patient to relapse, or inflammation of the sac, or the other inconveniences of passive clots." M. Broca very properly distinguishes diffused aneurism from circumscribed, for in it, as a moment's reflection would inform any one, the active clots could not form regularly, and passive clots would be formed. "But for that, indirect compression should not be considered inefficacious in the treatment of diffused aneurism, and as to the accidents by which it can be followed in such cases, they would be, at least, as frequent and as serious if the ligature had been preferred;" (p. 757.)

M. Broca gives a very careful and minute account of two cases of diffused aneurism, treated by himself, one in the wards of M. Malgaigne, the other in those of M. Nélaton. In the first, an enormous diffused aneurism of the tibio-peroneal artery, obliteration took place at the expiration of twenty days. But this obliteration was owing to the formation of passive clots, which, in place of condensing, becomes softer and more fluctuating, without being at all pulsating. This tumor was opened by a trocar, in order to relieve the pain, fever, and insomnia, it caused; black, softened, decomposed clots of blood, mixed with pus, were extracted. The patient was much relieved, when, thirteen days afterwards, the openings gave passage to an abundant arterial hemorrhage, this was relieved by direct compression. The next day, Malgaigne amputated the thigh, and eleven days after the operation the patient died of purulent infection. At the autopsy, the aneurism was found partially obliterated by a very consistent fibrinous mass, and partly by passive clots, which had softened, provoked suppurative inflammation, and, finally, had rendered amputation indispensable. All this has again and again been observed after the ligature.

In the second case, which is very interesting in many respects, a diffused aneurism of the popliteal region communicated with the knee-joint. Compression was tried with instruments, but the patient could not support them; owing to the condition of the joint, the limb was half flexed, and the instrument could not remain in place, without making it so tight as to be insupportable. With praiseworthy zeal, the students following M. Nélaton, offered to keep up uninterrupted digital compression upon the artery where it passes over the pubis; for ninety-four hours this was kept up, and when desisted from, there was no bruit-de-souffle, and the principal tumor was solid, and free from pulsation. A week afterwards, some very manifest movements of expansion, that had persisted at the sides of the knee, had disappeared. Three days afterwards, the tumor enlarged and became very painful; the fever was so very intense, and the general condition of the patient so alarming, that M. Nélaton amputated the thigh. On the seventh day of the amputation he died of purulent infection. At the autopsy, the aneurism was found to have become diffused consecutively, and while the primitive cavity was filled with active clots, the secondary, deprived of a sac, was filled with passive. These cases show, at all events, that indirect compression produced what the ligature would have produced. But that is all.

In treating of the *different modes* and *different proceedings* of indirect compression, of course, as the compression can be more or less forcible, it is possible to make several divisions, but M. Broca is content with two, total and partial, as the pulsations are totally suppressed or only diminished. As total compression (in the rare cases where it is performed), has the inconvenience of exposing to the same accidents as the ligature, as it is so painful that it might almost be called insupportable, as it endangers the healthy condition of the skin, and is often followed by œdematous and painful swelling of the limb,* total compression is a procedure so vicious, that it would not be worth while mentioning it, did it not enable M. Broca to make a regular proceeding of a certain manner of applying compression, which he calls *compression en deux temps.* Again and again patients have been treated in this way, and with success, but M. Broca says that this treatment was owing more to accidental circumstances than to the will of the surgeon. The best way will be, according to him, to imitate this treatment, and call it *compression en deux temps.* It would be unfair to say that he invented the proceeding, but in all probability he has invented its name. According to this proceeding, so soon as it is satisfactory that the aneurismal pocket is half obliterated by active clots, the pressure should be made total. He justly supposes that this mode offers some analogy with another, which is preferred by some surgeons, *gradual compression.*

Sometimes it is impossible to maintain the compression continuously, and it must be suspended for a time; from this, M. Broca makes two distinct modifications,—*intermittent* and *interrupted* compression. Intermittent compression is, when, on account of the pain, the pad must be loosened a few moments, or longer; it is interrupted, when, obliged to be abandoned for some time by accidental circumstances. These interruptions prolong the duration of the treatment, but the fibrinous layers that form persist.

Of all these proceedings, M. Broca prefers compression *en deux temps*, which he considers as certain and as inoffensive as partial compression, and as having, moreover, the advantage of shortening very much the duration of the treatment. This mode of applying compression, that is, of making the compression *total* after the lapse of a certain time, should be more often adopted than it is. In the Edinburgh Medical Journal, for 1856, there are two interesting cases reported, one by James Miller, the celebrated Professor of Surgery, the other by Dr. Johnstone. In both cases the compression, which was partial and interrupted, failed to cure the patients, though at first the tumor was much diminished in size. The ligature was afterwards applied with success. The whole history of these cases is exceeding instructive, but we can only call attention to these observations added by Mr. Miller; we do so on account of the opinions expressed therein in regard to the *collateral circulation,* which we have not met with elsewhere, and particularly on account of their bearing upon total compression, after partial has been continued for some time. As total compression acts exactly as the ligature upon the circulation, and is much less dangerous; and moreover, as it can be made supportable for a short time, which is all that is necessary in such cases, we would substitute it. "During the first weeks I had great hopes of obtaining a cure; the tumor became slowly harder, smaller, and less strong in pulsation. But after the third month, the impulse became decidedly more feeble, and with this change the hardening and diminution of the tumor stopped, and the tendency was rather the other way. I have no hesitation in attributing this result to the full establishment of most free collateral circulation, which the continued pressure had produced. And in every future case, were I to observe a similar change, I should at once supersede pressure by the ligature, satisfied that by such establishment of free collateral circulation, the success of pressure alone is rendered almost impossible, while at the same time delay of the ligature were most imprudent, lest, from the same cause, even its most abrupt and decided effects on the supply of blood might find some difficulty in silencing and shutting up the tumor." In a case very similar to those reported by the Edinburgh professor, and reported in the London Lancet, for February, 1856, Mr. Fergusson, instead of applying a ligature, applied Signorini's tourniquet on the superficial femoral. The total compression was kept up from 11½ A. M., to the next day at 10½, when it was removed. "All pulsation in the tumor had ceased." This has been observed repeatedly; we have never seen it elsewhere explained, however, than in the observations of Miller.

---

* Swelling of the limb is an objection made to the treatment by compression, but it is only applicable to total compression. Partial, generally dissipates any symptomatic œdema that previously existed.

In regard to *the place where compression should be applied* (p. 792). M. Broca speaks at some length of pressure applied below the sac, that is, between it and the capillaries, plainly in order to show "that Vernet first applied it with a knowledge of what he was doing," and to call it the "*Method of Vernet.*" "In the few cases in which it has been applied, in one it was completely inefficacious; in two it caused the tumor to increase; in one it caused the tumor to burst; in two other cases one was somewhat improved, and one was cured. This last one, however, one of the external iliac, had been treated for 35 days previous by the method of Valsalva, and at the same time by direct compression."* According to M. Broca, these results are not such as to encourage any new trials. There is some reason for thinking, however, that by making the compression total, better results would be had. Many very competent surgeons believe that the rapid cures of aneurism, obtained by compression, are owing to the blocking, up of the distal portion of the artery by a clot; and total compression of the artery about the same place should produce the same result. Dr. Collis (Dublin Quarterly, November, 1855) says, that "when pressure is made on the distal side of an aneurism, we observe an increase of impulse for a few minutes. If the compression is *complete* and *firmly kept up* (sic), this momentary irritation subsides, and the aneurism pulsates with less force than before." What is more important, however, the same surgeon reports a case in which, by acting upon this principle, he cured a case of aneurism of the common femoral. When the pressure was incomplete, the tumor increased in size. "A double-clamp tourniquet was applied against the pubis, and not disturbed for thirty hours, at the end of which time, upon slackening it, all pulsation was found to have ceased in the tumor and in the artery as high as it had been traced before, namely, to the spot where the common iliac bifurcates. Here the artery was compressed close to the sac, and the nearest collaterals were the internal iliac on one side, and the profunda on the other; pressure was made between the sac and one of the next collateral branches. As soon as the circulation was completely arrested, there was a coagulum *en masse* (sic) above and below, of the blood between the collaterals. And to the coagulation above the tourniquet Collis attributes most probably the non-occurrence of relapse, or of suppuration of the sac." (Loc. cit. p. 319.)

---

* This is a very curious case, which M. Broca has very imperfectly reported (p. 797); he has taken it from Bellingham, loc cit. p. 61.

In regard to the points to be chosen for compression, of course, they are those where the vessel is at once superficial, and near to an osseous surface capable of furnishing a *point d'appui;* and it is best not to approach too near to the tumor. The surgeon, without compromising the result, can go as far as he chooses from the seat of the aneurism. Two pads should be used alternately. This portion of M. Broca's book is rather extraordinary, and, as in many other places, he enters into such details, and lays down certain information in such a way, as to make one wonder what readers he wrote for; it is well for an author to remember, that though his knowledge may be in some points superior, nevertheless that his readers have reasoning faculties of their own.

As to whether it is proper to join direct compression on the tumor, M. Broca, in accordance with the views generally given, remarks very justly, that it opposes the obliteration of the sac, insomuch as to prevent the entrance of the blood, from which the fibrine is to be deposited, and that it is the best way of causing the failure of indirect compression. This is at the commencement of the treatment; when the obliteration is already advanced, he thinks that some advantages may be drawn from it, that it hastens the cure. General compression of the limb, he thinks still worse of, as it not only presses on the sac, but also on the collaterals, so as to interfere with their development.

As to the choice of the apparatus of compression, M. Broca enters into details of instrumental mechanics, which to him appear necessary, and at page 831, gives the representations of his *new apparatus for the compression of the femoral artery in every point of its length;* "without having imagined anything, and without having done anything, but to choose and combine the best and most simple of the known mechanisms, he believes that he has obtained an apparatus superior to all those employed to this day."

It is impossible to discuss critically this instrument, but there is one point that should not be passed over. The fundamental part of all the apparatuses is the compressing pad: this M. Broca says should be *small*, *convex*, and *hard*. The reasons he gives are theoretical, for it must "push aside the flesh, and avoid as much as possible the veins and satellite nerves of the artery." This is contrary to the experience of the Dublin surgeons, who, though they acknowledge it to be "incorrect theoretically," have found a broad, soft pad to answer best. (Bellingham, loc. cit. p. 184.) Digital compression, he acknowledges to be the most efficacious and least painful of all, the only objection to it being the difficulty of procuring the zealous assistance of a sufficient number of skilful persons. He says that it may be called an American proceeding, and gives the principal merit to Dr. Knight, of New Haven.

The instrument of M. Broca exerts an *elastic compression*, by means of vulcanized caoutchouc attached to the stem supporting the pad. Elastic compression was invented by M. Carte, and has enabled many patients to support an instrument, for it is much less painful than ordinary compression. Dr. Hutton says of the elastic pressure, "An easy mode of establishing its superiority exists, which any member of the profession can test upon himself. Let him place a screw-clamp upon the femoral at Scarpa's space, or at any other portion of the thigh, so as to stop pulsation in the vessel below. Let him try to walk across the room, he will find himself, as it were, riveted to the spot, totally unable to move. Let him next substitute for the clamp a circular compressor of M. Carte, and equally control circulation through the limb, and then try his powers of progression. Instead of inability to move, he will discover that he can proceed freely and walk with ease, the artery still remaining compressed, and no blood passing." It has also another advantage, in permitting the surgeon at a glance to recognize the degree of compression exerted on the artery.

§ VI. On the application of indirect compression, and the phenomena which result. A preparatory treatment, of a nature to diminish the mass of blood, and to render it more thick and more plastic, would favor, in his opinion, the action of compression, but as this method (compression) tests severely the resignation of a patient, he advises that the compressor be at once applied, reserving his patience for a more useful moment. As soon, however, as the pad is placed, certain measures drawn from the method of Valsalva must be used. The administration of digitalis should never be neglected, and in order to diminish the sensibility of the patient, preparations of opium should be given. He very prudently would not use ether and chloroform. This is not the advice given by the Dublin surgeons, who have been so successful. "The value of constitutional measures in these cases is not sufficiently insisted on, and yet I believe it will be found an important element in the treatment. If it were made a rule to institute a course of digitalis with low diet, in every instance, as an aid to compression, I apprehend, that mischief would frequently be done, and the cure of the aneurism retarded"—O'Farral says, at the same time giving proof of the truth of this opinion. (Dublin Quarterly for 1846, Vol. II.)

There is another point not to be passed over here: M. Broca says nothing about the position of the limb, attention to which tends greatly to facilitate the cure; thus, in brachial aneurism, the limb should be kept nearly in the perpendicular direction, and in femoral aneurism the foot much elevated. (See Crisp, loc. cit. p. 186.) O'Farral calls this one of the most valuable auxiliaries, favoring the return of the venous blood. (O'Farral, loc. cit. p. 383.)

In regard to the management of the apparatus, there is nothing to be remarked. It is natural to fear that the pads, compressing, always to a certain degree, the satellite vein of the artery, would so much interfere with the return of the blood as to produce œdematous tumefaction of the limb. This fear has very seldom been realized. M. Broca knows but of two cases. On the contrary, compression dissipates the œdema preexisting, caused by the aneurismal tumor interfering with the flow of blood in the adjacent vein. Compression interferes much more with the arterial circulation than with the venous, and the blood diminished in quantity finds sufficient ways to return to the heart.

In regard to the medium duration of the treatment, it has been, so far, below fifteen days; it is, therefore, less than that of the treatment by ligature. After the cure, the apparatus should be kept in place for several days, and thus with certainty, immediate relapse would be avoided, and, as to consecutive, M. Broca does not believe that compression properly executed has ever been followed by relapse; in those cases where it occurred, preferring with justice to accuse the surgeon (Bransby Cooper), rather than the method, for the insufficiency of the results. In those cases in which compression was not successful, and gave place to the ligature, more than seven-eighths were saved. When practised without this previous compression, which serves to dilate the collateral vessels, the mortality after ligature is one-third.

General results of the treatment of aneurisms by indirect compression, from 1842, until May, 1854. This is the date of the preparation of his table, in which there is a list of 163 cases. These cases are discussed by M. Broca with great ability, fairness, and spirit. Of this number, in 116 compression was efficacious, and in 47 it was abandoned as *intolerable*, or as *inefficacious.* The examples of intolerable compression are twelve, but in one case the compression was abandoned in two hours,* in another in five minutes, so that there are, in fact, but three cases, where it could have been intolerable, "*but the observations are, perhaps, more intolerable still;*" (p. 867.) In one of them, published in the Monthly Journal, devoted to Mr. Syme, and, consequently, very unfriendly to compression, Mr. Bergin is the operator, and his proceeding, as given by M. Broca, is exceedingly amusing; (p. 868.) In the other two cases there is no detail, but the surgeon says, he had only *imperfect instruments* at his disposal.

The examples of compression reputed inefficacious, are thirty-five. In thirteen, compression was certainly badly applied. In fine, in only eleven cases will M. Broca acknowledge that it was inefficacious, and in these the absence of active coagulation he assigns to a peculiar disposition of the blood, a want of plasticity of an unknown nature. The mortality does not reach five per cent. Only six deaths can be imputed to the treatment; four consecutive to compression alone, and two to ulterior ligature. Finally, of the four produced by compression, of only one can the method be accused, a case in which erysipelas was developed under the pad. The others died from the obliteration of the aneurism, and would have died if this had been effected by a ligature.

After what precedes, M. Broca properly judges that it would be superfluous to establish a long parallel between compression and ligature, and makes a few, but very forcible remarks on this point.

Chapter XX. On the choice of methods according to particular cases. (p. 877.) This is a very able chapter, in which, after remarking upon the folly of establishing a general parallel between methods, he passes in review particular cases, in order to compare them with some advantage. The seat of the tumor, its nature, its size, the state of the parts around it, the extent of its complications, the imminence of the danger, are so many eventualities that complicate the problem offered the surgeon. In the first place arterial aneurisms must be distinguished from arterio-venous.

Aneurisms of the thoracic aorta can only be treated by the method of Valsalva. Those of the brachio-cephalic trunk, by the method of Valsalva, aided by refrigeration. If that would not do, the carotid should be tied, and afterwards the subclavian, if the first ligature be unsuccessful. Aneurisms of the inferior extremity of the carotid by Brasdor's proceeding, and of the superior, by the method of Anel. The common carotid should also be tied when the internal carotid is affected, or the external very near its origin. In aneurisms of the ophthalmic artery, on account of the gravity of ligature of the primitive or internal carotid, and of the facility with which the circle of Willis brings back the blood, it would be prudent to make some attempts with galvano-puncture, and then with the perchloride of iron. Aneurisms of the external carotid are divided into two categories: those occupying the face and upper part of the neck, and those situated on the cranium; the first, when small, are to be treated by coagulating injections and galvano-puncture; when of a certain volume, however, Anel's method can alone be counted upon. When on the skull, he would commence by an application of the perchloride of iron, by the endermic method, and if that did not do, he would inject it into the sac.

---

* Mr. Lawrence, in American Medical Journal for October, 1851, from Lancet for July. By means of the usual clamp-shaped instrument, the pulsations of the tumor were completely arrested. "The patient, however, stated that the pressure gave him intense pain, and that he should probably not be able to endure the compression long. Nor did his feelings deceive him, for he could endure the apparatus but two hours."

Aneurism of the arteries of the upper extremity.—In treatment of aneurism of the subclavian artery, he would try the method of Valsalva; if it still increased, galvano-puncture, and as a last resource, would tie the artery beyond the tumor. In aneurism of the axillary artery, the method of Anel finds all its superiority; it is on the subclavian, outside of the scaleni, that the ligature should be applied. Aneurisms of the upper third of the humeral should be treated by a ligature placed on the artery in the armpit. When below that, indirect compression can and should be employed. Traumatic aneurism at the elbow merits particular mention. When small and recent, the treatment first employed should be direct compression, for which forced flexion of the arm, as advised by Malgaigne, is sufficient. When it is of long standing, direct compression will probably fail, indirect also, and the ligature must be had recourse to.

Aneurism of the abdominal aorta and its visceral branches, require the method of Valsalva, also those of the primitive iliac, for the method of Brasdor has never succeeded in the treatment of sub-diaphragmatic arteries, and to apply the method of Anel, the aorta must be tied, an operation that should be banished from surgery. If an aneurism of the internal iliac was diagnosticated, the primitive iliac would have to be tied, but M. Broca knows no instance of aneurism developed *in the pelvis* on the branches of this artery. Aneurisms of the buttocks are not rare; when a sufficient interval exists, the artery must be tied after it has issued from the pelvis; when not, the primitive iliac must be tied. Aneurisms of the external iliac demand the application of the method of Anel; when the aneurism mounts so high that it is not possible to tie the external iliac above the tumor, the primitive iliac must be tied. As this is a very dangerous operation, a moderate direct compression should be exercised on the tumor, through the walls of the abdomen, the femoral should be compressed in the groin, and absolute repose, diet, digitalis, and bloodlettings should be added. This pressure in the groin, from what he says before, has been so very unfortunate, that it is extraordinary that he should recommend it. Inguinal aneurism must be treated by ligature of the external iliac, and all other arterial aneurisms of the inferior extremity by indirect compression. If compression fail, ligature must be had recourse to. According to M. Broca, the true point selected for ligature in aneurisms of the leg, ought to be the inferior extremity of the femoral artery, and not at the angle of the inguinal triangle, as many surgeons advise. For those of the foot and of the instep, for those that exist behind the internal malleolus, or that occupy the inferior third of the anterior tibial, the trunk itself of the aneurismatic artery should be tied. For arteries placed higher up, the ligature of the femoral seems to him preferable to that of the popliteal, and to that of the deep-seated arteries of the leg.

Different natural or accidental circumstances may modify these therapeutical indications which M. Broca passes in review in a separate paragraph. We can hardly think that it is necessary to say that diffused aneurisms should never be treated by the method of Brasdor. Aneurisms that have burst into the muscles, and with bloody infiltration of the whole limb, demand amputation; aneurisms that have opened externally with hemorrhage, require ligature, indirect compression, incision of the sac and tamponnement with perchloride of iron.

Complicated with inflammation, aneurism must be actively treated. It is capable of leading to their spontaneous cure, but it is accompanied with dangers so numerous that it is indispensable to combat it. When the inflammation is but slight, repose, indirect compression, and the application of a bladder filled with ice, are generally sufficient to arrest it. If the seat of the aneurism does not permit of compression, the ligature must be practised without delay. When more considerable, if the tumor be still pulsating, the surgeon must tie the artery above, but if the pulsations are arrested the question is difficult. If the inflammation has not lasted long enough to obliterate the artery satisfactorily, the ligature should at once be used; if it has, he can wait, but in every case the opening of the tumor must be delayed as long as possible.

M. Broca knows of no case of gangrene of the limb complicating aneurism before the total obliteration of the aneurism. As a general rule, the surgeon should wait until the gangrene is limited; when he cannot, on account of the general symptoms, he must amputate above the tumor. Aneurisms communicating with joints, sometimes demand amputation; and also those that have caused deep and extended erosion of the skeleton. When an external aneurism is complicated with an internal, every operation must be desisted from.

The method of Valsalva, the method of Anel, and indirect compression, have no hold on arterio-venous aneurisms. The opening of the sac, double ligature, direct compression, galvano-puncture, and coagulating injections, can only be counted upon. As the greater number of these aneurisms remain stationary throughout life, and give rise to no dangers, it is only when they increase that an operation should be thought of; and the surgeon should always commence by direct compression. Arterio-venous aneurisms of the aorta, of the iliacs, of the carotid, subclavian, and axillary arteries cannot be treated curatively. Of the thigh and groin, the only treatment is direct compression, and when this method is not applicable, he advises them to be left in repose, as also of the popliteal region and thick parts of the leg. Of the foot, direct compression may be tried, and if it fail, some attempts may be made with galvano-puncture and coagulating injections. Analogous principles should guide the surgeon in the treatment of arterio-venous aneurisms of the upper extremity; but M. Broca stops a moment to consider those of the elbow, which are much more common. As here the aneurism is superficial, generally not large, situated on an artery of medium calibre, and not far removed from an osseous surface on which it is easy to compress it, the conditions are all favorable to direct compression. M. Broca is satisfied that by patience, the greater number of varicose aneurisms can thus be cured. If it fail, a bloody operation is too serious to think of; galvano-puncture could be tried, and if that did no good, perchloride of iron could be injected. The method of double ligature should be reserved for the very exceptional cases where the tumor makes alarming progress.

M. Broca has attached to his work two tables, containing 215 observations of aneurism treated by indirect compression; the first, of 62, is composed of facts anterior to the Irish period; the second, of 163, all from thence to May, 1854.

The index is the best we have ever seen in a French medical work.

W. F. A.

ART. II.—*Historical Sketches of Quarantine.* Address, delivered before the Philadelphia County Medical Society, January 28th, 1857; by WILSON JEWELL, M.D., President. Published by order of the Society. Pp. 30.

IN agreeable deviation from the usual custom of annual medical addresses, Dr. Jewell has chosen, for this discourse, a subject at least equal, in present interest, to those of medical ethics, or medical reform. It is indeed a topic "of magnitude, and world-wide importance." The view he has preferred to take of it is, as his title indicates, an historical one; dwelling, especially, upon the events of the early history of his own state and city.

The term quarantine (from *quaranta*, forty), is, we are told, although other opinions exist, "most likely to have had its origin in reference to the time of purification practised during the patriarchal ages." Both sacred and profane history give early instances of precautions used to prevent the spread of pestilential and contagious diseases.

> "It was not, however, until the 14th century, that any attempts were made to enforce legal restrictions, as a means of protection against the introduction of disease. The return of one of the military expeditions undertaken by Christians for the recovery of the Holy Land, from the power of Infidels, brought with it, we are told, the Egyptian plague. Being looked upon as a new disease, it excited an unusual degree of attention. Its great mortality, and its contagious character, gradually attracted notice. It was soon discovered, that those who avoided the sick, escaped the disease. Building on this hypothesis, measures for defence were early instituted, to avoid all intercourse with persons affected with the disease, and to prevent all intercourse with places where the plague prevailed.
>
> "The first of these regulations originated with Viscount Bernabo, of Reggio, in Italy, and was issued in January, 1374."* "In 1399, Viscount John imitated the example of his predecessor, when the disease appeared again, but in milder terms." "We have, however, no account of any well-defined legal code of regulations being introduced, until about the middle of the 15th century." The Venetian Senate, to exclude the plague, supposed to be brought from Constantinople and the Levant, "in 1448, instituted a quarantine by the enactment of a digest of laws, known, from that period to the present, as the laws of quarantine."

A few years subsequent to the passage of these laws, we have an account of the first organized Lazaretto, or pest-house. It was erected in 1453, on the Island of Sardinia, and called *Il Lazaretto Vecchio.* Another, erected in 1468, was entilled *Il Lazaretto Nuovo.* At a still later period, 1485, the Republic of Venice established the first board of health. It consisted of three nobles appointed by the Grand Council. They were called the Council of Health. In 1504, they received the right of life and death over those who violated their sanitary regulations; and no appeal was allowed from their decision.

From Venice, the quarantine system extended along the shores of the Adriatic, and, at last, to other commercial nations. It was enforced for the first time in England, about the year 1710, in Queen Anne's reign, when the plague was raging in towns on the Baltic Sea.

---

* The authorities of Florence are said to have used occasional precaution, as early as 1348.—*Russell on the Plague.*

> "At that period, the greatest excitement prevailed. But in 1720, during the dreadful plague of Marseilles, France, the government taking the alarm, appointed the celebrated Dr. Richard Mead to execute a draft of quarantine regulations, with the hope that, if enforced, their country would be preserved from the pestilence then desolating one of the fairest cities of France. The Parliament approving the suggestions drawn up by this learned physician, repealed the act of 1710, which was defective, and passed an act establishing quarantines throughout the commercial ports of the kingdom, which law, until within a few years, has been enforced."

Twenty years before the enactment of this law of 1720, in England, a similar movement was projected in our own country, and in the province of Pennsylvania; under the auspices of its proprietary, William Penn. Philadelphia was visited, in 1699, having then a population of about 4000 souls, by a "pestilential fever, which carried off six, seven, and sometimes eight a day, for several weeks together; there being few, if any houses free from sickness." Although no medical account of it is extant, it is believed to have been the yellow fever, or Barbadoes distemper; and journalists state it to have been supposed to be "brought into the colony from the West Indies."

In the following year, 1700, a quarantine law was passed by the Assembly, being the first act of the kind on record in America. In Massachusetts, a health-law, partially quarantine, was enacted in 1701. In New York, the first act of the kind was passed in 1758.

It does not appear that this primitive health-law of Pennsylvania was enforced, with any strictness, for nineteen years at least after its enactment. The earliest instance on record in this State, if not in all America, of the detention of a vessel on account of sickness, that has any resemblance to the enforcement of quarantine laws, took place in Philadelphia, in 1728, in the case of the Ships Dorothy and Pharaoh.

> "In the requirements urged in this case, there were many wholesome principles of sanitary police, not only understood, but carefully observed. Those sick on board the vessel were removed into fresh air and other conveniences. The bedding and all woollen goods were to be exposed on deck, and to be well aired at a convenient distance, before entering the city. The vessel, also, had to undergo a process of purification by smoking with tobacco and washing with vinegar."
>
> "The next historical event on record, demanding the enforcement of quarantine, did not happen until 1738, ten years after the detention of the Dorothy. It was in the case of the two Ships, the Nancy and Friendship, from Rotterdam and Amsterdam."

The same year introduced proceedings which led, in 1743, to the establishment, near Philadelphia, of a Lazaretto, or, as then called, a Pest-house, or hospital, for the accommodation of sick emigrants upon their arrival in the province. This was, as Dr. Jewell remarks, the dawn of a noble charity; the origin of the first public hospital in Philadelphia. The above proceedings are detailed, with much interest, and many other facts of great local importance are given, in the address before us; but we must confine ourselves to a mere sketch of them.

In 1741, the yellow fever had for the second time visited Philadelphia. In January, 1744, a ship arrived from the Mediterranean, where plague was then prevalent. This arrival produced a great sensation; but no disaster followed.

In 1747, the yellow fever again returned, in an epidemic form; notwithstanding that "great care had been observed in the examination of all vessels from abroad." Several visitations of "Palatine Fever" are also enumerated, as in 1738, 1754, &c.; originating among emigrants, and probably typhous in its character; although the medical records leave this ambiguous.

No further action was taken by the Assembly in regard to quarantine laws until 1774, when a committee of the House was appointed to introduce a new bill "for the protection of the province from pestilential diseases in ships;" which was passed January 22d, 1774. This health law remained unaltered for nineteen years; during that time it was "almost, if not quite, a dead-letter law." The war of the revolution, by obstructing commerce, removed, or placed out of sight, the occasions for its observance. Since that time, no changes, important in principle, at least, have taken place in this State.

Leaving, for the present, the history of quarantine elsewhere (which, however, from some of his references, we conclude to have been discussed by the author in a work of greater extent, not yet published), Dr. Jewell concludes with some general remarks on its bearings upon public hygiène. To these we have looked with much interest. Few men have had ampler opportunities for the study of the subject; and very few have given it such industrious research. As an active member, and for a time, President of the Philadelphia Board of Health, Dr. Jewell has learned all that could be learned by actual and laborious observation, in a large manufacturing and commercial city, of the causes of disease, and of the modes of its prevention. Let us hear what he has concluded upon, in regard to the main subject of this discourse. Speaking of quarantine, he says:

> "It involves the preservation of the health and life of individuals, as well as nations. It deserves the attention and study of statesmen, of philosophers, physicians, and of the humblest individual in society. If it has embarrassed commerce, and wasted millions of dollars, it has kept disease from our dwellings, and saved thousands of lives. If it has oppressed the few, it has conferred blessings upon the masses; and if it has failed to arrest the progress and spread of epi-

demics, it must be conceded that in numerous instances it has been useful by resisting the introduction of disease; hence it cannot be too highly appreciated, nor too thoroughly investigated."

After an allusion to the views of the London General Board of Health, and others, in opposition to quarantine, he continues:

"Unwilling as I am to commit my opinion to the extreme views embraced in this commission, or, on the other hand, to agree in sentiment with those ultraists, who, from a different stand-point, are disposed to regard the quarantine system as the only safe means to be relied upon for security from the invasion of pestilential and contagious diseases, nevertheless, I am deeply impressed with the fact, that quarantine, as it now exists, and wherever enforced, in this or in foreign countries, is not only inefficient and oppressive, but calculated to entail upon commerce unnecessary interruptions and unreasonable embarrassments.

"That in many instances they have failed to accomplish the laudable purpose for which they were originally instituted, history furnishes numerous melancholy examples. That the isolated means adopted to dissipate the morbific agent, and preserve the crew and passengers of ships in a healthy state, have proved the cause of a foul atmosphere, and the nourishment and development of the very evil it was designed to prevent, is alike true. The doctrine, too, of a specific contagion, or the spread of epidemic diseases by contagion, which was universally received when quarantines were first instituted, has, within the present century, undergone almost an entire revolution, especially in relation to those epidemics which for centuries, have occasionally made their appearance among the nations of the earth, depopulating their cities, and prostrating their commercial energies.

"A judicious modification of thepresent unsound, ill-advised, and ancient code of quarantine laws is, therefore, not only called for, but absolutely necessary. In the domain of the science of hygiene, quarantine has already become a prominent subject of investigation. An apparent inconsistency exists in many of its leading features, truth being mixed up with the rubbish of error. It conflicts with the prevailing opinions of the best informed medical men of the present age, and stands in direct opposition to the almost universal belief in the laws which govern epidemics, and determine the question of contagion, upon which false doctrine the laws of quarantine were originally based.

"My experience as regards our own quarantine system, has long since convinced me of the entire propriety of such a modification as shall place it upon an equality with the present improved state of the science of hygiene. The requirements of the law, as it now stands, are unnecessarily restrictive and burdensome, when enforced, as well as embarrassing to the commercial prosperity of our city, and should be remodelled.

"In advancing my own opinion on the question of a reform in quarantine, I am free to acknowledge, that while I desire a thorough change in the existing system, I am not an advocate for an entire repeal of those laws. My experience and observation lead me to this conclusion, however widely it may differ from the results arrived at by many of my learned countrymen, and the investigations and conclusions of enlightened commissions in Europe."

Mention is made of the opinions of influential men of earlier times, in favor of the abrogation of quarantine; as Maclean, Rush, Caldwell, Potter, and even President Jefferson, who, in 1804, "in a communication to Congress on the state of the Union, protested against the prevalence of a code of laws to prevent the introduction of yellow fever." But the weight of these and other authorities does not in the least shake the faith of the author of this address, as to the importance of a judicious code of quarantine restrictions. Not only commerce, but health must, of course, be duly considered in legislation.

> "It is of paramount importance that the community be protected against the introduction of pestilential and contagious diseases, through the channels of commerce. This can only be done by an efficient system of quarantine laws; laws which, sufficiently restrictive in their operation, when properly enforced, to guard against the admission of disease, will not infringe unnecessarily upon the interests and rights of the owners, underwriters, or crews of vessels, when unfortunately detained, either by delays, expenses, or exposure and destruction of property; laws which will in nowise impede an active commerce, whose interests, thus jeoparded, have always been antagonistic to quarantine establishments."

The construction of a system which will, notwithstanding the presence of positive restrictions, reconcile fully the interests of commerce with those of public health, is indeed a great desideratum; it would seem to us, at present, a difficult one to hope for, under the name of *quarantine.*

It cannot be considered a fault, in the present address, that it does not discuss the details of the desired reformation in health laws; since such a topic was not proposed in its title, and would undoubtedly extend it too far. Dr. Jewell, in connection with the Philadelphia Board of Health, has, by recent correspondence throughout the country, obtained the calling of a Convention, of delegations "from the various boards of health in those cities interested, and from respectable medical organizations," to deliberate fully upon the whole subject; this conference "to receive the sanction of the State Legislatures, and in the end to have a national impress." The Convention, we are informed from another source, is to meet in this city on the 15th of May, 1857.

A very similar proposition to this was made by Dr. R. E. Griffith, thirty years ago, in the first number of the American Journal of Medical Sciences, Nov., 1827; looking toward the establishment, by delegates from the several States, of uniform health laws, adapted to the different localities throughout the Union.

We hope that this Convention may succeed in the object of its assemblage; but we must confess to some doubts of its perfect and immediate success, in settling forever the so vexed question of quarantine. We venture even to doubt whether its organization is upon the very best possible basis for present utility. It is to be composed of delegates from commercial bodies, from boards of health, *and* from medical societies; the medical element in its formation being evidently secondary. Can this afford *permanent* results? "While doctors disagree, who shall decide?" Until the scientific question is set at rest, how shall the practical one be disposed of? But, it may be inferred from the above programme, that, in the view of Dr. Jewell and others, medical men are not the most competent to decide upon the scientific data in question. This opinion, in fact, is not now uncommon. A writer in the British and Foreign Medico-Chirurgical Review, who has obtained a place in the literature of yellow fever (rather through the character of the journal than the merits of his article) in an *ex parte* review of Drs. La Roche and Barton, has broadly suggested what is here implied, namely, that medical men are not fit judges of medical evidence. This is done by him, it is true, in a very different spirit from that of Dr. Jewell; as he accuses of *partisanship* all those who differ from him; including, of course, the London General Board of Health, the Sanitary Commission of New Orleans, and all other bodies, and men, who, having concluded to disbelieve in the great efficacy of quarantine, *must*, therefore, be guilty of presenting "selected evidence." He would include, no doubt, in the same category, the illustrious Chervin himself, and the commission of eminent men appointed by the French Academy, to report upon his labors; who all deserved the epithet of partisan, certainly, as well as Dr. La Roche.

We may digress for a moment, to ask, what would such critics say in a similar relation, of Alexander von Humboldt? One might suppose that, in the whole history of science, there has never been a mind more fitted by its powers and culture, to test dispassionately just such a question as this. While in Mexico, Humboldt devoted himself to the subject of yellow fever, as one deserving of investigation; studied it as a naturalist; and what was the result? In his Political Essay, as is well known, he states, that "on the continent of equinoctial America, the *vomito* is no more contagious than the intermittent fevers of Europe."

In another profession, that of law,—whose special vocation it is to deal with evidence, and to sift certainty from semblance,—examples are not wanting of at least presumable impartiality in dealing with this subject. The reply of T. Jones Howell, Esq., Judge Advocate, to the Colonial Secretary of State, upon the epidemic at Gibraltar, in 1828,* affords an admirable instance; although it contains deductions adverse to quarantine.

But, we are not in doubt of the possibility of the Medical Profession itself arriving at certainty upon such points, *in time.* At least, it has sufficient power, rightly or wrongly, to unsettle any supposed certainty or permanence otherwise attained. In France, and elsewhere, the question in regard to plague, cholera, and yellow fever, *has been* determined again and again; but, if not always disturbed afterwards, it has not afforded precedents for other quarters, and may hardly be considered, in any place, to have constituted a final settlement. Thus, in 1845, the Superior Council of Health, at Paris, presided over by the Minister of Commerce, unanimously pronounced that "science had arrived at a definite conclusion, and it was no longer allowable to believe in the contagious character of yellow fever!" Yet in the same place, seven years later, an International Sanitary Conference was held, which found it a part of its duty to *mitigate* quarantine restrictions, a very considerable stringency in which they still upheld.

---

* Sec. Rep. on Quarantine, Eng. Board of Health, p. 245.

It is unfortunate that differences in opinion amongst medical men, as amongst theologians, are constantly exaggerated, as well as maintained, by much greater differences in the use of phraseology. The remark of Pascal (quoted by Hosack), is quite apposite upon the subject of this notice. "*La différence qui est entre nous est si subtile, qu'à peine pouvons nous la marquer nous mêmes.*"

In the employment of the words *contagion* and *infection*, a world of confusion has existed, blending hypothesis with fact, and obscuring the real agreement of many controversialists, upon opposite sides, in regard to the essential matters of the question. That such an agreement has been, all along, underlying the warm dispute upon ambiguous terms, must be obvious to any one who will compare the language of those who have, by the energy of their argumentation, or the authority of their experience, attracted the most attention to their opinions upon yellow fever. It may not be unprofitable to exemplify this.

Thus, Currie, who is classed with the decided contagionists, admitted* that "a certain condition of the atmosphere must concur with the matter of contagion, before the disease can be communicated from one to another." Rush, notwithstanding his full recantation of the contagion theory, afterwards acknowledged, that matter capable of causing the disease might be "retained in beds or clothes," so as to give rise to cases of the fever even during the succeeding summer or autumn.†

Chisholm allows the local origination (from filth, &c.) of at least two epidemics, that of the Ship Hankey, off the African coast, and one in Demerara; although he distinguishes "the common fever of the West Indies" from the Bulam fever, in these and other particulars.‡

Hosack, who calls himself a believer in the contagion of yellow fever, places it in his third class of communicable diseases,—to whose transmission "an impure atmosphere is *indispensably necessary*."[*]

---

* Fever of 1799, p. 77.

† Rush's Inquiries, vol. iii, p. 103.

‡ Letter to Haygarth, p. 217; and Med. Repository, v. 229.

Monette, an industrious contagionist, acknowledges the existence of sporadic cases, not communicating the disease, nor accounted for by such a mode of transmission.[†] Dr. Drake, who most laboriously investigated all the evidence in Western and Southwestern North America, and decided against contagion, yet states[‡] that yellow fever cases have been produced "by exposure to the air escaped from goods sent from a city in which the disease was prevailing."

Dr. Dickson,[§] although he considers yellow fever to be contagious, yet believes that, as a general rule, its contagiousness is *limited* by *certain contingencies;* that "it does not exist anywhere in winter," and that if carried into a cold region it will not diffuse itself.

Dr. E. H. Barton, one of the most able opponents of contagion, admits the occasional propagation of the disease by *fomites*,[‖] "in a kindred or congenial atmosphere." Dr. Barton also distinctly advocates quarantine; to which his fellow-citizen, Dr. Fenner, is less inclined, though an avowed "contingent contagionist."

Dr. W. P. Alison,[¶] in one of the most philosophical articles which have appeared upon the side of the contagionists, asserts that such a mode of transmission can occur only in a *tainted district*, with *distinct boundaries*. He admits, also, the occasional origination of the fever on board of ships, without contagion or shore malaria; that this never takes place north of N. latitude, 48°, and that the contagion itself "cannot pass without destruction, over 1000 yards of water."

Lastly, Dr. McWilliam[**] considers that "the contagious properties which marked the Eclair fever at Boa Vista, were acquired," not essentially belonging to the disease.

If not from these opinions, thus displaying congruity in the midst of dissonance,—certainly from the facts on which they are based,—it might seem possible to draw a conclusion, and to make that conclusion so evidently the essential result of the facts upon which all agree, that no man could consistently give it his dissent. If the Convention, to which allusion has been made, can do this, it will do an immense service to the country and to the world. If it can even settle with clearness, correctness, and unanimity, the *terms* of the controversy, the logical conditions of the problem, and the methods by which it is to be finally solved, it will yet do much; and this we believe to be all that ought to be expected of such an organization at the present moment.

---

[*] Copland's Med. Dictionary, Am. ed., vol. ii, p. 403.

[†] Drake's Principal Diseases, &c., 2d series, p. 270.

[‡] Ibid. p. 298.

[§] Elements of Medicine, p. 262.

[‖] Rep. of San. Commission, &c., p. 273–4; and p. 453.

[¶] Brit. and For. Medico-Chirurg. Review, April, 1854.

[**] Report of the Fever at Boa Vista, p. 110.

We shall certainly be charged with didactic presumption, as well as with occupying too much valuable space, if we prolong this discussion by an attempt to give in a *coup d'œil,* what appears to us to be the present state of the question in regard to the communicability of yellow fever. Yet the temptation is great, and the occasion above-named may afford some excuse, even at the necessity of harping, for the thousandth time, upon familiar names and things.

First, then, as to terms. *What is contagion?* La Roche states that the profession has pretty much agreed upon a modification of the definition of Dr. Bayley; that it is "a poisonous material, capable of exciting a peculiar disease, and emanating, with that power, from a body sick with that disease." Dr. La Roche, himself, concentrates this elsewhere into the terms, "a specific, secreted poison." The word *secreted* may well be objected to; but its meaning here obviously is, *educed by a physiological or pathological process, such as can only occur in a living human body.*

Now, in this meaning, we venture to assert, that not a single fact has ever been made public, which warrants the conclusion that yellow fever has been proved to be contagious, under any circumstances whatever. There is but one "*instantia crucis*" of contagion; and that is, the transference of the disease, by inoculation, from person to person, under conditions forbidding any other origin for the second case. This has always failed with yellow fever. *The occasional personal communication of disease does not alone prove contagion.* We are obliged to differ, in holding this opinion, from Dr. La Roche.* The latter disbelieves, upon similar grounds, the contagiousness of typhus, of erysipelas, and of puerperal fever. His objections, however, to the supposition of occasional (however rare), transportation by persons, not through contagion, are chiefly *theoretical* objections, against the hypothesis associated with the term *fermentation;* an unnecessary hypothesis altogether. Notwithstanding his preference for the "vegetative decomposition" theory, Dr. La Roche admits the existence of a "peculiar poison," or "morbid material;" which, of course, must be *the* "conditio sine quâ non," if it exist. Dr. L. disproves, also, the completeness of the "shears" theory of Dr. Barton,† by showing that, both the meteorological and the terrene conditions remaining the same, a locality may one year be affected with yellow fever, and another not. Dr. Barton acknowledges this, unconsciously, in admitting that the introduction of a case of the disease (all other circumstances remaining the same), into a congenial atmosphere, may propagate it.* Similar disproof of the "vegetative" or "ligneous" theory is abundant. The absence of the disease from the open country, generally, and from the Nile and the Ganges, in particular, suffice. Dr. J. Wilson has supplied what was wanting to this theory in the words, "*the peculiar influence known only by its effects, assumed to be essential in some way to the production of the disease.*" Call this a Poison, with Dr. Alison; how then is it propagated, how is it carried, how is it destroyed? These are the questions. Shall we venture to attempt to answer them? 1. It exists only at certain places. 2. Only at certain seasons. The meteorological and terrene conditions are well proved—if we include the latter within the wider generalization of vegetable decomposition, mostly with animal products also in abundance; but, these are *conditions* only, not sufficient causes, as above shown. The Poison, in question, displays a capriciousness or variability, in its law of increase and decrease, most suggestive of parallelism to organic life: especially when we remember that its main *habitat* is the tropics, and its period of growth and activity, that of the absence of frost. It is not necessary to pursue this hypothesis; no single objection can be urged against it, of force, except that it cannot yet be *proved*. This is the duty of time.

---

* Vol. ii, p. 191.

† Vol. ii, p. 109, and 623.

The question, then, seeming to be, not between the contagion and non-contagion of yellow fever, but as to how this morbid Poison is transmitted, we may state that the general rule is proved to be,—its extension in the manner of an epidemic or endemic only. The range of this may be sometimes very limited; as in the instance of sporadic cases—abundantly upon record. We could, if desirable, burden these pages with numerous references upon this point; but it has been already done. The latest evidence of interest in regard to it, is to be found in the recent pamphlet of Dr. Arnold, of Savannah, based upon accurate and extensive experience in the post-mortem appearances of the disease.†

But, certain very credible authorities positively state facts which are difficult to explain, unless upon the theory of occasional personal transmission. It does not seem to us fair to deny all of these facts. It may be remarked upon them, however, 1. That some of them have been already, with great probability, otherwise explained. This is very curiously shown, for example, in the report of Dr. N. B. Benedict, to the Sanitary Commission,‡ in regard to an epidemic at Hollywood, in Alabama, in 1853.

2. That such cases are, to make the very best of them, *exceedingly rare.*

3. That the extension of the disease from them has never been wide;

---

* Rep. of Sanitary Commission, &c., p. 264.

† Essay upon the Relation of Bilious and Yellow Fever; Addendum, p. 6.

‡ Report of Sanitary Commission of New Orleans, p. 123.

scarcely ever reaching to more than one or two individuals. The recognized theory of *ship infection* (vessels affording the local causes), will account for supposed examples to the contrary. What, then, it will be asked, do we say of the famous "modern instances?" Of Ascension, Boa Vista, Fernando Po, and Goree? Only, that the best of them, so considered, that of Boa Vista, is vitiated, radically, by the length of *time* in the dates—the broken link at the case of Anna Gallinha, and the fact that yellow fever was already existing at the neighboring island of St. Jago, without any contagion. Even in the numerous instances of infection from ships, the disorder has rarely extended many rods. Of this, perhaps, no better or more interesting example can be afforded than that of Fort Hamilton, near Brooklyn, N. Y., in 1856.

We may ask, then, next, how is this Poison *destroyed?* 1. Always by freezing weather. 2. In *almost* every case, by the removal or absence of *filth*, and of *newly upturned soil.* The qualification named is necessary, in accordance with the present state of facts and assertions. It may be done away with, probably, hereafter. 3. In the language of Alison (contagionist), "North of 48° lat., at least, it cannot pass over a thousand yards of water without being deprived of its power."* In the words of Dr. C. H. Stone, of Natchez,† "*it cannot remain against a tenknot breeze.*" 4. There is no adequate reason, whatever, for believing that it attaches, especially to, or is multiplied in, the bodies of the sick.

It cannot be supposed possible, in case it should be connected with the person of an individual, or with clothing, bedding, or merchandise, that it would fail to be dissipated or rendered inert by cleansing and disinfecting processes of the ordinary kind; and the same may be asserted, unhesitatingly, in regard to ships.

5. Removal of the inhabitants from the locality of the infection will, in all instances, cause it to die out.

But we are transgressing all reasonable limits. Cutting short our exploration of a boundless field, we must allude only to the fact that Baltimore, in 1819, modified her quarantine laws, so as to allow *passengers*, in all cases, to go freely; and yet, she has had no epidemic of yellow fever since; notwithstanding close intercourse with infected ports, and especially with those of Norfolk and Portsmouth, in 1855.

In conclusion, in place of an expression of individual opinion upon the subject originally entered on in this review, we prefer to quote the language used by Dr. Griffith, thirty years ago, in the paper already mentioned.‡

"All vessels from tropical climates, whether from healthy or unhealthy ports, should be obliged to stop at quarantine until they have been cleansed and ventilated, and the state of their cargoes examined; if these are found in an unsound and putrefying state, they should be discharged, and the unsound parts separated and detained, whilst the sound, after having been purified, might be permitted to proceed to the city. After a vessel has been discharged in port, she should undergo a thorough and complete ventilation and purifying, under the inspection of an officer appointed for that purpose.

---

* Brit. and For. Medico-Chirurg. Rev., April, 1854.

† Trans. Am. Med. Assoc., 1856.

‡ Am. Jour. of Med. Sci., Nov. 1827.

"Passengers should be permitted to leave quarantine, unless when laboring under disease.

"The boards should be endowed with full powers, on the appearance of a contagious or malignant disease, to remove all those attacked, and if necessary, to vacate and prohibit all intercourse with that part of the town.

"They should have the power to cause to be removed all nuisances, which might tend to the deterioration of the health of the city . . . . the wharves should also be paved and regularly cleansed, and the docks should be of such a depth as never to be uncovered during low tides."

ART. III.—*Medical Notes and Reflections.* By SIR HENRY HOLLAND, Bart., M.D., F.R.S., etc. From the third London Edition, Philadelphia, 1857, 1 vol. 8vo, pp. 493.

IN this smoothly and carefully written volume is recorded, in a perspicuous manner, the professional experience of a thoughtful and observant physician, who has pursued the healing art in the great metropolis of England, for the long period of thirty-six years, during the whole of which time, he has "been accustomed to preserve notes, not merely of particular cases, but also of such general reflections as were suggested to him by actual observation."

In the preface to the first edition of this work, which appeared in 1839, and was republished in Philadelphia, in the same year, the author sets forth the general scope and object of his "Notes and Reflections," in the following paragraph,

> "What I would fain hope may be found in this volume is, a just view of some of the relations of diseases, as well to each other as to the healthy functions of the body;—the correction of some doubtful or erroneous views in practice;—suggestions which may be useful as regards particular classes of remedies;—and reflections on certain points of physiology, in which without any pretension to experimental inquiry, it appeared to me that something might be gained by arranging the facts and inferences in a new form. On topics of the latter class I have sought especially to associate pathology with physiology, the morbid with the natural and healthy states of the body; believing this principle of modern inquiry to be, above all others, fertile in sound conclusions, and far from being yet worked out to its full extent. If I might venture on giving any distinctive character to the volume, it would be that of aiming throughout at this object."

Concerning the attempt here referred to, of connecting physiology and pathology, or rather treating these two branches or departments of scientific inquiry, as the inseparable and mutually elucidating parts of the great science of Biology, we have already spoken* in our commentary upon the excellent treatise of Chambers on *Digestion and its Derangements.*

In the present edition of his work, Dr. Holland has attempted to obviate the somewhat desultory character of former editions, by "bringing the chapters more into series, as regards the relation of their subjects." The early chapters treat of certain pathological principles, through which the author has sought to associate together various morbid conditions, not usually thus connected in our systems of nosology. The concluding chapters are mainly occupied with the treatment of disease, and the action of certain medicinal and remedial agents.

The volume very appropriately opens with a chapter on Medical Evidence, the importance of which is only equalled by the difficulty of estimating it aright. Upon the correct appreciation of medical evidence depends medical truth, and the records of the age which is most solicitous of medical truth, must necessarily constitute the brightest chapter in the history of the healing art. Founded upon observation and experiment, wholesomely guided by reason, medical truth is strictly inductive. The complexity, magnitude, and delicacy of the phenomena which it represents, must ever deprive it, perhaps, of a purely demonstrative character. It deals with facts as the mathematician deals with figures, and recognizes no speculation, except those generalizations which incontestably flow from its legitimate records. Mind and matter wedded upon the altar of the organic cell, mind and matter acting and reacting upon each other throughout the incessant processes of development, growth, reproduction, and decay; these are the subjects which the physician is daily and hourly called upon to observe and record. How careful should he be, therefore, that the conflicting evidence thus set before him, do not mislead him, and consequently endanger those who depend upon his judgment for the preservation of their health, or the restoration of that health when lost. If the physician estimates this evidence aright, then he dignifies his profession, and through it, becomes a benefactor to all mankind. Let him through prejudice or carelessness, or inherent inability to grapple with the great problems of his art, fail in reading this evidence correctly, and the mischief daily inflicted will expand like the surface-waves produced by a falling stone, until far-distant points are affected by its malign influences.

Peculiarities of mind and body, the varying aspects which the same disease presents in different individuals, the intimate manner in which primary and secondary causes of disease are blended together, the difficulty of discriminating between the physical, chemical, and vital operations of the human organism, the constantly varying effects of remedial agents employed in ameliorating disease, and the consequent difficulty of assigning them their true value,—such are a few of the associated elements which give to medicine its character of complexity and uncertainty—a character so disheartening to the conscientious physician, and so encouraging to the empiricist and the impostor, who avail themselves of this confusion to build upon the many illy-understood and "false facts" of medicine, their systems of fraud and deception, whose chief excellence is to put money in their purse. Only by the right use of medical evidence can we hope to deprive medicine of its uncertainty. Very properly, therefore, does our author introduce it at the threshold of his "Notes and Reflections," calling attention to the light manner in which this testimony is too generally weighed by physicians themselves, the necessity of testing the action and value of a new remedy by a logically severe and cautious method of observation and experiment, and avoiding the *post hoc, propter hoc* reasoning which has so often disgraced the annals of medical philosophy.

---

* See Med. Examiner, Nov. 1856.

Among the sources of error and embarrassment to which all medical proof is exposed, Dr. Holland instances the uncertain notions entertained as to the functions of many important parts of the body, the conflicting views upon contagious diseases, and the uncertainty as to the action of drugs upon the animal economy. He also comments upon the advantages of the numerical method so skilfully employed by Louis, and calls attention to the manifest tendency of the age to busy itself with the abstruse questions relating to vitality, the vis nervosa, the relations of mental and material power, and the obstacles which retard the progress of medical science, in the shape of extreme credulity, on the one hand, and extreme scepticism, on the other.

Hereditary temperament and tendency to disease constitute the subject-matter of Chapter II.

A moment's reflection will show that the laws of hereditary disease are, in great measure, modifications of the laws of specific forms, so laboriously developed by Cuvier, in his philosophical attempt to restore the forms of the fossil world; by Geoffroy Saint-Hilaire, Lamarck, Blainville, De Maillet, and Serres, in France; and by Meckel, Tiedemann, Van Baer, Spix, Oken, Valentin, and others, in Germany. Considered from such a stand-point, the whole subject acquires a highly philosophical character.

> "For in considering this hereditary tendency to disease, whether arising from structural or less obvious cause, it is needful to regard it in connection with, or even as part and effect of, that great general principle, through which varieties of species have been spread over the globe, with obvious marks of wise and beneficent design. That there are certain determinate laws, by which the permanence of species is secured, must be admitted as a general fact—the result of all

observations hitherto made on organic forms, both living and extinct. The very circumstance of the frequent repetition of analogous and parallel series of forms, under different physical conditions, and at different geological epochs, though admitting some doubt as to its interpretation, is nevertheless most favorable to this opinion. Still we are not entitled to deny to the followers of Geoffroy St. Hilaire the *possibility* that it may be otherwise; and that time may hereafter disclose to us some evidence that species are not immutable. It is, in truth, one of the great remaining problems of natural science, to determine whether the variations induced upon any *specific form* of animal life, can ever become such in amount and fixedness as to constitute a new species, in the complete definition of the term;—a question not to be settled 'within the hour-glass of one man's life,' but requiring ages of continuous observation, even for the chance of solution."

Expressing his belief in the permanence of species,—a belief so boldly, and we may say so successfully attacked by Gérard, in the *Dictionnaire Universelle* of D'Orbigny—and dismissing the notion of a single primitive germ or absolute unity of animal type as a thing not proved, while he admits that comparative anatomy is ever carrying us back, by successive steps, to simpler and more fundamental types of animal life—Dr. Holland thus proceeds:

"It is still a subject of dispute whether this progressive approach to more general forms is stopped by essential differences of type, or whether such divisions do at any point in the series really exist—whether there are separate circles of analogous structure, as defined by the four great classes of Cuvier, or by the more complex systems of some later zoologists—or whether these are but artificial limits, subordinate to a common type pervading all the forms of animal life. These are questions strictly within the scope of research, and the solution of which connects itself with some of the highest objects of natural science. I have never, as already stated, seen cause to think the arguments of Natural Theology, at all affected by these inquiries; even when pushed to the speculations of a primitive germ, or original unity of type. Its truth, indeed, is far above the reach of what, after all, are but subordinate researches, even if they could by possibility attain the proofs of what these terms express. The chain is lengthened, and its parts are connected together by new and unexpected links. But still it is a chain of designed organization throughout; and if we simplify the first of these links, it is but to render more wonderful the number and perfection of the varieties which are evolved in definite forms from this elementary structure. If the parts in man have all their analogies or models in lower animals; or if, according to one view proposed, we regard the several organs of the human embryo as passing through all the gradations of lower types, before reaching their perfect development in man; still the great argument remains the same. The progressive elaboration throughout all its stages is definite and designed;—the points are fixed at which each deviation has its beginning from the more common antecedent forms;—the limit of change, as defined by species, is fixed in each particular case. If there be an argument for the unity of creation, more complete and comprehensive than another, it is that which is furnished by the recent progress of comparative anatomy; enabling the observer, by the uniformity of general laws, to predicate from a single minute part of structure all the more important generic characters of the animal to which it belongs.

"If now, recurring to the subject before us, we make the progress of development the basis of our views, and follow this from more general forms to those which are successively subordinate—even as far as to families and individuals of the same species—we thereby connect the subject of hereditary aberrations with this more general law; finding reason from analogy to expect that such aberrations should occur, and that they should be carried into extreme variety and minuteness. The different parts of structure and function become more special, or individual at each step of descent; never losing, however, their relation to the original common type; and in the instances at least of individuals of the same species, tending ever to recur to it, when the causes of change are modified or withdrawn."

"If peculiarities of external form and feature, whencesoever originally derived, tend so speedily to become hereditary—affecting, as we see on every side, not families alone, but, by intermixture and descent, whole races of mankind—we can have no doubt that deviations of internal structure (whether they be of deficiency or excess, or of any other nature) are similarly transmitted; and with them propensities to, or conditions of, morbid action in the parts thus organized. Though the direct proof is not equal for the two cases, and though the effects resulting are of such different importance, yet it is certain that the peculiarities, so carried on from one generation to another, have reference for both to one common law. Those deviations from the primitive or common type of the species, which occur chiefly in the bony structure, integuments, or muscular fabric, producing varieties in the outward form and feature, in the texture or color of the skin, hair, &c., may exist to great extent, without affecting in any important way the health or natural functions of the individual. On the other hand, much smaller deviations from this type, in the internal organs of circulation, respiration, digestion, absorption, or secretion—or in the brain and nervous system—may produce morbid actions, painful in progress and fatal in result; each class of deviations alike transmissible to progeny, under the same general law. A faulty texture of skin, a hare-lip, or strabismus—all frequent hereditary defects—may be of little import to health; while a morbid structure of internal membranes, a slight organic deviation in the heart, or a tendency to deposit in the crystalline lens, may inflict danger or distress upon every part of life.

"This view, if authentic, is obviously one of singular importance in the history of disease, and capable of very wide application. It throws light upon the connection of various morbid states, by giving the relation to a common physical principle in their cause; and this principle one which is associated with others of the more general laws of life. Here, for example, we must look for explanation of the difference in the average duration of life in different families—a fact well attested in itself, notwithstanding the many exceptions which the laws or social usages of mankind are ever inducing upon it. There is no just reason to doubt that hereditary peculiarities of structure are as frequent and varied—perhaps as extensive—in the internal organs, as in the external parts of the body. Analogy would suggest this as a probable truth. It is confirmed in great measure by observation; and more extensively as the examination is rendered more minute."

The method here advocated, of pursuing the study of hereditary disease through the unity or analogy of structure in corresponding organs, is undoubtedly the natural one, and therefore most likely to lead to correct conclusions.

After inquiring whether bodily peculiarities, disease, &c., are transmitted by the blood or by the solids, the author proceeds to lay before his readers a number of singular and highly interesting cases of hereditary malconformation and tendency to disease, concluding the chapter with some speculations upon atavism, and the tendency manifested by many diseases to evolve themselves at particular periods of life.

Passing over Chapter III, in which is indicated the method of inquiry as to contagion,—a method which he treats under the three heads:—1st. The state of the person giving the infection; 2d. The state of the person receiving it; and 3d. The condition of the medium through which the transference is made,—we come to the subject of "Diseases occurring but once in life," which is discussed in Chapter IV with the following conclusions:

"*First*, That the series of actions or changes, constituting these diseases, have their seat in the blood, and are carried on throughout by the circulation.

"*Secondly*, That, although we have no cognizance of the actual physical state or changes which give protection against their occurrence or recurrence, there is more reason for seeking these in an altered state of the blood than in any other part of the animal organization.

"*Thirdly*, That the conditions which render one disease incompatible with another—or produce the various results of their mutual interference—or limit to man their production and development—all probably depend on the same physical principles as the simpler fact of immunity, and have equally their source and seat in the blood.

"*Fourthly*, That the state of immunity, on whatever bodily conditions it depends, is liable to fluctuation in various ways;—is often partial and imperfect when first obtained—occasionally diminished or lost by time, even where there is presumption of its having been most complete at first—possibly affected in some degree, and after a certain lapse of time, in all;—the rate of such changes being different in different persons, and modified also by the access of other diseases, or by the contingencies of life.

"*Fifthly*, That a constitutional or hereditary tendency exists throughout all these phenomena;—modifying susceptibility—determining, in conjunction with other causes, the regular or irregular course of the disease—affecting its degree of virulence—and giving liability to its recurrence; and that this habit is not limited to families, but extends even to larger communities.

"*Sixthly*, That the several modifications, above named, depend further on the quality or quantity of the virus received in each case—conditions admitting of being infinitely varied; and giving, in conjunction with the effects of season, locality, and human constitution, the peculiar character which every epidemic more or less assumes."

Chapter V is devoted to the consideration of the connection and classification of measles, scarlatina, hooping cough, infantile remittent fever, and to the epidemic constitution of seasons.

"I have observed repeatedly that, during the seasons in which influenza has occurred as a general and severe epidemic, these two diseases of scarlatina and measles have been more than usually frequent; though in no instance, perhaps, reaching the extent to which they occasionally occur at other times;—and further, that during the actual prevalence of influenza, a class of cases has appeared of very singular and ambiguous kind, having many appearances analogous to each of these disorders, but particularly, as I think, to scarlatina. I noticed frequent cases of this nature during the influenza of the spring of 1833, when the scarlet fever was also very prevalent, and produced much mortality in London. A peculiar spotted efflorescence on the skin, generally attended with some angina, and occasionally with slight ulceration of the throat, were the symptoms principally marking this apparent relation; which was sufficient in degree to suggest the question, whether it arose from the concurrent action of two morbid causes; or from one virus capable of producing different forms of disease, according to the texture on which it fell, or other less obvious circumstances. If hazarding an opinion on this obscure subject, it would be in favor of the former view. Though we have many instances of such seeming incongruity of two diseases, that one present in the system precludes the ingress of the other, still there is no foundation for a general law to this effect. On the contrary, we have various proof that morbid actions, derived from sources wholly different, may coexist in the body; severally modifying each other, though under conditions scarcely even surmised in our present knowledge.

"Erysipelas and erythematous inflammations are frequently found to prevail during particular seasons, and in certain localities; and with many common characters. Such are the affection of internal membranes, the translation of the inflammation to the skin, the frequent presence of fever of low or typhoid type, and the influence of this state of habit upon all casual injuries or disorders of the body occurring at the time. Instances of this kind were formerly more explicitly recorded, as the writings of Sydenham testify, in connection with the doctrine of an *epidemic constitution* of seasons—a theory which scarcely receives its due regard in our own day.

"A further example may be found in a sort of epidemic character which puerperal fever often takes, in seasons when erysipelas is very prevalent; rendering it probable that there are some causes in common to the local and constitutional disease;—if not indeed the same morbid cause to both, modified in its action by the texture affected, and by the individual peculiarities of each case. The presumption, now rendered almost certain, that both puerperal fever, and erysipelas in its ordinary character, become contagious under certain circumstances of type, season, or locality (and these seemingly alike in different instances), may be admitted in further proof of such a relation. And further, we have reason to believe that there is increased tendency to both disorders during the prevalence of epidemic influenza; as was well attested with regard to the puerperal fever in the spring of 1838.

"The hooping-cough among children has also been singularly concurrent with some of the epidemics already mentioned; particularly, as I find in my notes, with the influenza, which spread so universally over England in the summer of 1831, immediately before the first appearance of the Asiatic cholera in this country; and again very remarkably with the similar, though less severe epidemic, which prevailed in London during the spring of 1838. The cases were numerous at both these periods, in which, in children especially, it was scarcely possible to draw distinction between the two disorders; and difficult to avoid the persuasion that some cause was concerned, analogous or common to both."

The prevalence of infantile remittent fever during influenzal epidemics; the connection of epidemic pertussis with an unusual tendency to bowel affections; the singular frequency, especially among children, of ulcerations or eruptions of the mouth, fauces, nose, lips, and face, during the prevalence of these bowel disorders; the relations of dysentery to infantile fever; the connection between epidemic dysenteries and certain pestilential affections, such as typhus and typhoid fevers, are successively discussed in a detailed and instructive manner. This chapter terminates with a short commentary on the various and conflicting systems of nosology, which at various periods in the history of medicine, have had their strenuous advocates. In the science of physiology, the author finds the true basis for the classification of disease.

"Classification may be sought for, either in the particular character of the morbid actions which produce disease, or in the organs and functions themselves, viewing them as severally subjected to these morbid actions."

"Of the two main principles just stated as the basis of classification, that resting upon functions may, I think, be reasonably preferred. The nature of morbid actions, however, much as our views have been enlarged, is still in numerous points ambiguous and obscure. Until the true theories of fever and inflammation are more entirely established, and the diseased actions of the nervous system more exactly defined, we bring incertitude into all arrangements of which they principally form the basis. It is true that these difficulties appertain to every system; the conditions out of which they arise, being in one degree or other common to all. But being such as they are, we cannot look to find here any certain basis for the classification of disease, though much that is valuable in approximation to it.

"A system of Nosology, of which function as connected with organs is the basis, has various advantages in practice. Less ambiguous in its foundation, it connects more explicitly the healthy and morbid states of the organs; admits more readily all the changes which the progress of knowledge may require; and often itself suggests the methods and direction of this progress. We must admit that the several functions of life are not all equally or exactly defined. In disease, moreover, it rarely happens that one function only is concerned; or if such be the case in the outset, others for the most part get involved either by metastasis or extension of morbid action. Still there are few systems of classification, whatever the subject, which do not labor under similar difficulties as to the bases on which they rest. Those may be deemed in every case the soundest in principle which contain within themselves the elements of rectification, and best facilitate, meanwhile, the advancement of science."

The theme of Chapter VI, "Disturbed Balance of Circulation and Metastasis of Disease," is wholly physiological in its character.

In Chapter VII, the longest and perhaps the most interesting in the whole work, the author treats his readers to an essay on the "Influence of Weather in relation to Disease."

When we reflect that the elements of climate constitute the external conditions of vitality, and that these elements are numerous and within certain limits constantly varying in intensity and in combination, and consequently in the influence which they exert upon the manifestations of life in both the animal and vegetable worlds; when we reflect that they are associated in such a manner as to render it extremely difficult to determine their respective, individual actions; and when, moreover, we call to mind that the living organism upon which these actions are exerted, is also made up of a series of elements, the true character and value of each of which are so difficult to determine, we at once become aware of the complexity as well as of the magnitude of the subject, and the important part which climatic science must ultimately play in solving many of the obscure and perplexing questions of pathology. Indeed, a progressive physical science in the careful hands of a few illustrious men, is already casting a clear and steady light upon the hitherto dubious paths of the physiologist and pathologist; and these latter, after years of prejudice and apathy, are at length beginning to perceive in the principles and exact logical methods of the former, the true key to the complex problems which constitute their daily studies.

Among the many interesting topics alluded to in this chapter, we may briefly mention, for example, the direct effects of temperature upon the body; the degree to which external cold may alter the balance of the circulation,—directly, by contracting the capillaries and smaller arteries of the surface, or indirectly through the effect of this altered equilibrium upon the action of the heart itself; the tendency of sudden changes of temperature to produce topical inflammation, through irregularities of the circulation, resulting from general or partial changes in the superficial capillaries; the influence of external temperature on the functions of the skin, whether those of transudation or simple evaporation; the effects of a sudden arrestation of the perspiratory function by external cold; the direct action of cold as a remedy; the relation of atmospheric temperature and electricity to endemic and epidemic diseases, &c. &c.

Chapter VIII is appropriated to the consideration of dietetics, and the disorders of digestion.

The subject of gout as a constitutional disease claims the attention of the reader in Chapter IX. According to Dr. Holland, the greater portion of our information of the intimate nature of this disease, may be comprised under the following general heads:

> "1. That there is some part of bodily organization disposing to Gout, because it is an hereditary disorder.
>
> "2. That there is a *materies morbi*, whatever its nature, capable of accumulation in the system,—of change of place within the body,—and of removal from it.
>
> "3. That though identity be not hitherto proved, there is a presumable relation between the lithic acid, or its compounds, and the matter of Gout; and a connection through this with other forms of the calculous diathesis.
>
> "4. That the accumulation of this matter of the disease may be presumed to be in the blood; and its retrocession or change of place, when occurring, to be effected through the same medium.
>
> "5. That an attack of Gout, commonly so called, consists in, or tends to produce, the removal of this matter from the circulation; either by deposits in the parts affected; by the excretions; or in some other less obvious way, through the train of actions forming the paroxysm of the disorder.
>
> "6. That there is intimate relation between the condition of gouty habit, and the functions of the kidneys and liver, both in health and disease.
>
> "7. And that the same state of habit, or predisposition, which in some persons produces the acute attack of Gout, or slower deposits about the joints, does in others, and particularly in females, testify itself solely by disorder of internal parts, including the nervous system, as well as various secreting and excreting organs of the body."

But the limits which are assigned to this notice, being nearly filled, we must hasten to conclude by stating that a chapter is appropriated to each of the following topics:—Morbid Actions of an Intermittent kind, The Medical Treatment of Old Age, Recent Epidemic Influenzas, Prognosis as a part of Practice, Pain as a Symptom of Disease, Points where a Patient may Judge for Himself, Methods of Prescription, Internal Hemorrhages and Morbid Secretions as the Subjects of Medical Treatment, Some supposed Diseases of the Spine, Hypochondriasis, The Exercise of Respiration, Some Points in the Pathology of the Colon, Abuse of Purgative Medicines, Bleeding in Affections of the Brain, Use of Emetics, Uses of Diluents, Sudorific Medicines, Use of Opiates, Mercurial Medicines, Use of

Digitalis, Antimonial Medicines, Hypothesis of Animalcule Life as a Cause of Disease, and Cholera.

Upon the whole, the work of Dr. Holland may be regarded as an agreeable and useful addition to the library of the physician. More suggestive than original, its true merit lies in the elevated character of the various topics embraced in its pages, and the philosophical tone in which they are discussed. To the student just entering the profession, and to those yet young in its practice, the volume under consideration recommends itself, not only for its general avoidance of those technicalities which so often prove incumbrances, rather than auxiliaries to the progress of medical science; but also for the careful manner in which the author attempts to define the limits of our information concerning the various topics treated of, by " separating what is actual and assured knowledge, from that which but usurps the name and show of it."

A prominent feature which meets us here and there, throughout the work, is the great stress which Dr. H. lays upon the relation of medicine to the physical sciences in general. In his concluding remarks, this connection finds expression in the following language, with which this brief notice—written *currente calamo*—must terminate.

> "I cannot, however, close what I am now writing, without some reference to another object, of which I have never lost sight in the consideration of these subjects. I mean, the relation of Medicine, both as a science and system of practice, to the other physical sciences—a connection ever tending to closer approximation; and through which its progress to higher attainments and powers is mainly to be looked for in the future. This is a field for exertion so vast and various, that every physician may fulfil some part in the required labor, by observation, experiment, or reasoning. Chemistry in its every branch (but especially the Chemistry of Organic Life, associated, as it now is, with the doctrine of definite atomic proportions) stands foremost in the connection thus established. But Electricity, Optics, Meteorology, Natural History, and even the mechanical sciences, severally contribute towards this great circle of relations; which, while unceasingly enlarged by new discoveries, is at the same time ever concentrating itself around common laws and higher generalizations. To these I have often had occasion to refer in the preceding chapters; and have indicated, wherever able to do so, the means by which their association with medical knowledge may best be enlarged and defined.
>
> "For from the growth of the other physical sciences, Medicine has not only enlarged its own sphere, and gained a sounder philosophy, but it has also acquired new methods and instruments with which to conduct future inquiry. Numerous and exact records now give effect to that happy method of averages, which we have noted as being an almost mathematical guide to truth. Every well-attested case thus acquires its appropriate place and value; and facts, before lost or dispersed, are now virtually registered in the conclusions to which they have contributed. Of the direct instruments which science has furnished in aid

of medicine and physiology, the Microscope is the most consummate and wonderful example. But other refined applications of physical agents have become familiar to our use; giving the power of looking more deeply into the interior of the living frame; of better determining its morbid conditions; and of applying remedies more closely and effectually for their relief.

"To remove error—to perfect what is incomplete in knowledge—and to attain by discovery what is new—may fitly be placed before the young medical man, as objects not merely compatible with the practical duties of his profession, but as even aiding their more entire fulfilment. Few indeed possess the means requisite to command fame or success in such pursuits. But the objects themselves need not, and ought not, to be alien to any condition of medical life; and the endeavor to attain them, to whatever extent it may in each case be possible, will ever form the best guarantee for the just and honorable discharge of professional duty."

ART. IV.—*Report on the Causes which impede the Progress of American Medical Literature.* By S. D. GROSS, M.D. From the Transactions of the American Medical Association, Vol. IX, 1856.

As the annual volumes of Transactions published by the American Medical Association have but a very limited circulation, too limited, we are sorry to say, for the good which they are calculated to accomplish, we propose to give, from time to time, analyses of some of the more important papers which they contain; and as no one of the contributions to the last volume has attracted more general attention, and provoked more various criticism than the "Report" of Dr. Gross, we do not doubt that the readers of the "Review" will thank us for presenting them with an abstract of its contents. The sentiments expressed by the author, and the conclusions which he has reached, mortifying on some accounts as they are to our national pride, commend themselves to the careful, conscientious, and temperate consideration of all who have at heart the high interests of our profession. The stigma, which is so often cast upon us by our transatlantic brethren, is not to be removed by the amiable listlessness of old fogies, who sit quietly around the professional fire-places of their ancestors, nor by the empty boastings of the self-styled Young Physic, but by a close and scrutinizing self-examination, a determination to know the truth, and a hearty acquiescence in every rational plan of progress. However much men may differ in reference to the points supposed to be established by the author, he deserves our lasting gratitude for his open and manly attempt to point out the evils under which we labor; and the severe rubbing which he has given the thin-skinned portions of the *body* of the profession, will doubtless produce a healthier action, notwithstanding the writhings and revilings which some individuals, smarting with well-deserved pain, have indulged in. It is not our intention here to defend the author from the violent criticism based upon misinterpretation, and wilful misrepresentation with which his report has been met in certain quarters, where we had a right to expect a more candid and high-minded spirit, while from the disgusting personalities, with which one or two so-called medical periodicals have seen fit to soil their pages, his position as a gentleman is a sufficient shield. Our object is simply to place the substance of the Report before the readers of the Review, that they may judge for themselves.

After stating the peculiar difficulties with which the subject is environed, the Report proceeds immediately to consider the nature and extent of our home medical literature. In this connection the avowal is frankly made, that, notwithstanding the rapid strides that the profession has taken within the past few years, our medical literature, though highly creditable as far as it goes, is still in a state of infancy, imperfect in many of its parts, and struggling against obstacles—a fact which the Association necessarily admitted in appointing the committee. In explanation of this state of things, reference is made to the comparative youthfulness of our national existence; our recent entire dependence upon European supplies, a dependence which is still more or less acknowledged by many; the slowness with which all branches of literary pursuit necessarily proceed toward maturity; and the absence of anything like governmental aid or patronage. It is consoling to observe, however, that the development of our national medical literature has been comparatively more rapid than that of our mother country, or any of her continental neighbors; for, as here mentioned,—

> "Ages elapsed before England, France, Germany, and Italy, the most favored, learned, and scientific nations of the Old World, had made even a beginning in medical authorship. The medical literature of Great Britain dates no further back than the time of Harvey and Sydenham, in the early part of the seventeenth century. Until the appearance of those illustrious men, the pride and glory of English medicine, England had no medical writers who survived the generations of which they formed a part; and even for a long time subsequently, she hardly produced a solitary work which is now remembered except by its title. Richard Wiseman was her first great surgical author, and generations passed away before she produced a Pott and a Hunter. In anatomy, physiology, chemistry, materia medica, medical jurisprudence, toxicology, obstetrics, and practical medicine, she had literally no great works until the commencement of the present century. In pathological anatomy, and general pathology, she has not yet a solitary treatise worthy of her noble profession. The same is true, though not to an equal degree, of the medical literature of some of the other nations of Europe."

During our colonial dependency, owing to the peculiar difficulties connected with a settlement of a wide-extended country, the sparseness of the population, the few inducements for the emigration of refined and educated physicians from Europe, the lack of medical schools, and the great expense attending a foreign education, the medical profession was almost necessarily composed of men of comparatively slender acquirements, while the clerical and legal professions, especially the former, were much more ably represented.

> "The religious persecutions of Europe induced some of the most able and learned divines to forsake the Old World to seek an asylum and a home in the New. They brought with them their piety, their zeal, their erudition, and their enterprise, which they devoted, without stint, without money, and without price, to the service of the Church, of education, and of literature. They became the founders of some of our most valuable and distinguished literary institutions, and the authors of eminently creditable works on theology and history. The most important judicial offices were held by men of learning and legal acumen, sent hither by the British Crown; and many of the governors of the different provinces were Englishmen distinguished for their literary and scientific tastes and attainments."

But how different was it with the profession of Medicine; she had no teachers worthy of the name, no antecedents, no great lights, no influence.

> "The first American Medical College was erected in 1763, and although another was soon added, yet both were compelled to close their halls during the Revolution; nor was any attempt made to revive them until after the establishment of peace in 1783. Up to this period, and indeed till after the commencement of the present century, hardly any work had appeared on medicine from the pen of a native physician. The most valuable treatises then extant were Bard's *Midwifery* and Jones's *Surgery*, both greatly esteemed in their day on account of their practical character."

Under the genial influences, however, of freedom and self-reliance, medical societies, medical charities, and, finally, medical periodicals, sprang up in every direction, and afforded employment and labor for the best intellects of the day. As a necessary result, book after book has appeared, until we shall soon cease to be able to count them.

> "The early part of the present century supplied us with the writings of Rush and Barton, the *System of Anatomy*, by Wistar, Dorsey's *Surgery*, so long used as a text-book in the University of Edinburgh, Chapman's *Therapeutics and Materia Medica*, Coxe's *Dispensatory*, Thatcher's *Practice of Medicine*, and several other productions of minor note. As yet, however, the profession had not produced one solitary great work on any subject. Then appeared, in pretty rapid succession, the valuable treatises of T. R. Beck, Gibson, Dewees, Horner, Eberle, Hare, Silliman; and, at a still later period, those of Dunglison, Wood and Bache, N. R. Smith, Meigs, Wood, Dickson, Oliver, Paine, Condie, Bell, Warren, Stewart, Ray, Gerhard, Bartlett, McClellan, Pancoast, Morton, Miller, Mitchell, Frost,

H. H. Smith, and others. The last few years have been unusually prolific in valuable monographs, as is exemplified by the publications of the younger Meigs, the two Stillés, Swett, Carnochan, Frick, Drake, and La Roche, the last two of which may justly be regarded as forming an epoch in the literature of the profession."

After thus proving that the profession of the United States at the present day cannot justly be accused of idleness or ignorance, but that its aggregate capacity comprises an amount of talent, erudition, science, and activity, greater than that of any of the other liberal professions, the Report proceeds to inquire into the causes which still obstruct the progress of our national medical literature. These are grouped under four principal heads: "1. The identity of the language of this country with that of Great Britain. 2. A disposition in the profession to patronize English works in preference to American. 3. A want of independence in our periodical press. 4. A lack of industry in observing and recording facts in private and hospital practice."

The argument upon the first head is based upon the easy accessibility of foreign works written in our own language, and the free use that is made of them by our large publishing houses to the exclusion of native productions. We have the testimony of the English journals that when a new book upon almost any branch of medicine is announced in London or Edinburgh, the agents of some of our American houses are placed upon the look-out, and no sooner do the first copies drop from the press, than one or more are seized upon and whisked across the sea as rapidly as steam can carry them, and before the original work reaches us in the usual course, its American reprint is laid upon our table for notice. This, it is true, is a regular business transaction, and in the absence of an international copyright law, perfectly legitimate; but its injury to our home literature is not, on this account, any the less serious. It may be argued, on the contrary, that the successful sale of these republications is an evidence that the wants of the profession are thus acknowledged and supplied. But when has it been proved that where a man can't get home-made bread he will not send to the baker? And if this matter is to be looked at in a purely mercantile sense, why may not government impose a duty upon such importations as well as upon other foreign articles which do not come under the head of necessaries? And no one will contend, we presume, that foreign books are in any sense more necessary to our comfort than many other articles of merchandise. But if it be true that the supply of republications is only commensurate with the demand, then the difficulty is expressed in the premises under the second head, to wit, a disposition on the part of the profession to patronize British works in preference to American. But this argument from the demand to the supply, should be viewed in another light, for the American publisher being exempt from the expense of a copyright, is enabled to furnish the reprints at a comparatively low price, and thus appeals to the pecuniary interests of the profession; an influence which, however vehemently it may be denied when thus broadly stated, is silently but surely at work in keeping the medical mind of this country in more or less subjection to British authority. And thus it is, as stated in the Report, that "one of the most remarkable anomalies of our age and country that our literature, polite as well as scientific, exhibits, even at the present moment, more of a foreign than a domestic aspect."

"It cannot be denied that this practice of republication is of great advantage to the public; for it serves to diffuse among the people, in a cheap and accessible form, a vast amount of knowledge that would otherwise be beyond their reach. It brings the works of our transatlantic brethren directly to our doors, at the same time that it serves to extend the name and fame of the authors. But, while it accomplishes all this, it unfortunately interferes, in the most positive manner, with the establishment of our national literature, considered in its widest as well as in its professional sense. It depresses native talent, native genius, native aspiration and enterprise. It narrows the road of authorship, and besets it with obstacles and difficulties almost insurmountable by ordinary means. The man who attempts to scale it must do so at the risk of a long probation, without the prospect even of much ultimate pecuniary reward, when his reputation shall have been firmly established by the product of his pen. When his literary labors are completed, and he places his MS. into the hands of his publisher, should he be so fortunate as to find one, he is pretty sure to be informed that there are already before the public so many works on the same subject as to render the success of his own too uncertain to justify the offer of a stipulated sum for the copyright of the first edition. Should the sale go off well, he may ultimately receive a few hundred dollars for what ought to have brought so many thousand, if the book had no foreign competitors in the form of reprints. In short, he finds his only recompense and solace in the prospective fame of his literary labors. I do not now speak of the novelist, the poet, the tourist, and other writers of light literature, who always find readers, however trashy their productions, but of men of science and letters, the solid and substantial authors of a country. These men must be encouraged, patronized, and sustained in their efforts to improve the literature of the nation, and thus advance its honor and glory. If it be said, in reply to these remarks, that every work must stand on its own merits, we do not perceive the force of the rejoinder. If the market is already glutted with foreign productions, it must be obvious that the wants of the public are, at least, in part, if not fully supplied; and hence the native work, however meritorious, must labor under the disadvantage of a degree of competition, which, especially if we consider the additional disadvantage of its higher price, may throw it into the shade, or altogether prevent its success. If, for instance, an American physician were to write a work on surgery, his success would be sure to be tardy, because the country is already flooded with foreign treatises; and so in regard to most of the other departments of the profession, as well as of literature in general. If the people of Europe spoke but one language, and there existed no international copyright laws, there would be comparatively few authors of any kind; the necessity for writing would be much diminished; the same book would answer for all; and men of literary taste and attainment would seek other channels for the exercise of their talents. But such is not the fact. Every nation has a distinct and separate language; a distinct and separate literature. The works of Sydenham and Harvey, of Van Swieten, Bichat, Haller, Baglivi, and Scarpa can be read out of their own countries by the mass of the profession only through the medium of a translation. Speaking, as we do, the same language as the people of Great Britain, and republishing as we do, at pleasure, any of their works that come within our reach, Shakspeare has more readers by ten to one on the shores of the Ohio than on the banks of the Avon."

In the discussion of the second point, viz.: "The disposition of the profession to patronize foreign works, especially English, in preference to our own," the Report sets forth a variety of circumstances under which this disposition is exhibited. It is stated in the first place,—and who can deny it?—that the majority, or at least a large proportion of the text-books recommended by the various medical schools in this country, are of English origin, while every one must be aware that upon most of the branches taught in these schools, there are native treatises not inferior to the foreign. In a brief comparison between some of the medical authors of the United States and those of Great Britain the following paragraph occurs:

"Where is there, it may be asked, in the English language, a medical dictionary at all comparable with that of Professor Dunglison? or a treatise on physiology superior to that of the same distinguished author? Since the days of Haller, I have hardly seen a more learned, systematic, or comprehensive treatise on the subject in any language, certainly not in the English. It is all that such a work should be for the pupil and practitioner; plain, simple, perspicuous, and perfectly methodical, with an amount of erudition as rare as it is profound and astonishing. Our works on anatomy are amply sufficient for all the purposes of the class-room, for which they have all been employed, to a greater or less extent, by some of our schools. The system of Wistar has maintained its place in the esteem and affection of the American student for nearly half a century, and, with the emendations and additions of Professor Pancoast, bids fair to hold out half a century longer. Horner's treatise has passed through numerous editions; and the works of Morton, Richardson, and Handy, are, in every respect, superior to that of Wilson, which figures so conspicuously upon the catalogues and annual announcements of our colleges. In practical medicine we have just cause to be proud of the labors of Eberle, Wood, Dunglison, and Dickson, to say nothing of those of Hosack, Dewees, Thatcher, and Bell, the latter of which, however, is too much mixed up with that of Dr. Stokes to give it a national air. In materia medica and therapeutics, the treatises of Chapman, Eberle, and Dunglison, have long been held in the highest esteem. The second of these works was honored, soon after its appearance, with a German translation, and its author with a membership of the Medico-Chirurgical Society of Berlin. The treatise of the late Dr.

John B. Beck, a more recent production than any of the above, is, I conceive, a model for a text-book; clear, graphic, concise, yet sufficiently comprehensive for all possible purposes to which such a book can be applied. In obstetrics we have the admirable and original works of Dewees, Meigs, and Miller, which all enjoy a European reputation, and a wide appreciation at home. On the diseases of children, the treatises of Eberle, Condie, Stewart, and Meigs are without rivals in the English language. In medical jurisprudence there was no work, until recently, that was at all equal to that of T. R. Beck, the merits of which have been acknowledged even in Great Britain by several reprints, and in Germany, by at least one translation. The recent production of the late lamented Moreton Stillé, on the same subject, is destined to attain a high rank in the medical literature of the country. The Dispensatory of Wood and Bache is, beyond doubt, the most able work of the kind extant. If we have no great treatises on surgery, chemistry, toxicology, and some other subjects, is it to be supposed that we are incapable of supplying them? Certainly not. What has been done for the other departments of medicine may assuredly be done for these. We have the power; it is only necessary to exert it. Ages elapsed before Great Britain produced one solitary great work on surgery, obstetrics, practical medicine, toxicology, chemistry, medical jurisprudence, and anatomy. The Universities of Oxford and Cambridge had existed for centuries before she even began to dream of a national medical literature. She has not even yet anything like a great medical and surgical dictionary, one to be compared, in point of extent and erudition, with those of France and Germany. In descriptive anatomy, until the appearance of the treatise of Mr. Quain, only a few years ago, she had never furnished one great, respectable, or reliable work; and in materia medica, toxicology, juridical medicine, and obstetrics, she was equally destitute. In operative surgery she has produced nothing equal to the elaborate and beautiful work of Dr. Pancoast, with, perhaps, the single exception of that of Mr. Fergusson, so well known and so highly appreciated in this country."

The reporter, however, disclaims the least desire to see an embargo laid upon foreign works,—

"Or in any manner, form, or degree, disparage their merits, or discountenance their just claims upon the favor and patronage of the American profession. Literature, the arts and sciences, are cosmopolitan, acknowleding no 'pent up Utica' as their home. Like the breezes of heaven, which fan and fertilize the earth, and refresh its laborers, they belong to no country and to no age, but to the whole world and to all time. We need no international copyright laws; let there be a free interchange of our intellectual products; let us not place upon them any restrictions, as we do upon calico and other articles of manufacture. The time will come, if it has not already come, when the medical profession of Great Britain will be glad to receive, in par exchange, the results of our mental labor for theirs."

In this connection allusion is also made to the editing of foreign works by American physicians, and the practice condemned upon the broad ground that these republications should be made to rest upon their own merits. It is well known that in many instances such works, so far from being improved by the addition of American notes, are intrinsically damaged, although the scribblings of the editors may increase their sale, while those that are much improved are generally not worth reprinting, and should not therefore be foisted upon the profession in this way. That this practice, so humiliating to our national pride and opposed to every feeling of patriotism, has met with but little reciprocity in England, is proved by the fact that the only American works that have ever been republished in that country, are Dorsey's *Surgery*, Beck's *Medical Jurisprudence*, Ray's *Treatise on Insanity*, and Warren's *Observations on Tumors*.

The third point to which attention is directed is "The Influence which is exerted upon American Medical Literature, by the American Medical Press," and upon this subject the report speaks with that boldness which truth and patrotism inspire, albeit the facts therein stated fall like melted iron upon that class of namby-pamby writers, whose lucubrations sometimes appear in our medical journals under the title of "Reviews." It is more particularly in reference to this branch of journalism that the author insists upon an improvement. The department of original communications is admitted to be fairly supported, and to abound in articles which will compare favorably, *in a practical point of view*, with similar articles in foreign periodicals, but it is here plainly, and, we dare say, truthfully asserted, that the department of criticism is sadly behind that of the British press in point of boldness, force, and good judgment.

> "The reviews are, with few exceptions, written without taste and without point, as if their authors were afraid lest they should be accused of unkindness, harshness, or ill-nature. They are characterized more by politeness than by a manly and independent tone, which is not afraid to utter its real sentiments and to affix the seal of its unbiassed judgment. They are marked by none of the masculine vigor which is so well calculated to impart zest to the reader, and cause him to regret that he is so near the end of his task; which infuses life and spirit into a journal, and makes it a welcome guest at the table of the physician; which fashions and directs the dart, but blunts its point before it is permitted to strike its victim; which metes out equal justice to all men who come within its vitalizing, soul-stirring influence; which blends mercy with severity; which, when occasion requires, wounds but does not kill. It is a criticism which is neither alkaline nor acid, nor yet wholly neutral, but so nearly neutral as to render it impossible to determine its real character. It is a jesting, good-natured criticism, which, for fear of doing mischief, or of being thought unkind, is bound in swaddling-clothes, lest, by its sudden and inadvertent jerks, it should kick over the milk and water in the inkstand of the happy, self-complacent reviewer. In fine, it is an inert, a tame, a spiritless criticism; a criticism without body, without strength, without soul, deaf and dumb, and blind and halt."

The report then proceeds to state the essential elements of true criticism, and its importance to the profession, in the following terms.

> "It should be free and independent of all extraneous influence, foreign and domestic. It should exercise its functions openly, boldly, vigorously; with an eye single to the honor of the profession and the glory of America. While it should ever be ready to rebuke egotism, presumption, and ignorance, however exhibited, or from whatever source emanating, it should also be ready to speak the word of gentleness and kindness to the brother who adds his feeble mite to the general stock of knowledge and experience. While it does not cover, as with a mantle, his sins of omission and commission, it should endeavor to point out his defects in the spirit of affection and encouragement. It should hail his efforts as a good omen, as an evidence of his zeal and devotion to the cause of science, as a desire to render himself useful, and not to bury his talent in the earth, and lead the life of a drone. It should encourage him to proceed, to renew his efforts, to try again. It should not aim to extinguish him by the discharge of its gall, by harsh rebuke, insolent assertion, or, worse than all, by faint praise, which has so often blasted the aspirations of genius, and damped the energies of mediocrity. Nor should it indulge in undue severity against the works of our European brethren, but extend to them a cordial, a hearty, a threefold welcome. It should, in the discharge of its noble mission, institute a thorough examination into their merits, and award them praise or censure, according to the dictates of its honest convictions. It should truckle to no man, clique, or faction; it should be subservient to no interests, save those of truth and justice. It should be patriotic, and at the same time cosmopolitan; local, and at the same time universal; for time, and at the same time for eternity. Like the Judge upon the bench, it should, in all doubtful cases, lean to the side of mercy, and never condemn without adequate testimony. It should be blind, yet far-sighted; mild, yet stern and uncompromising, watching, as with an eagle's eye, the honor, dignity, and interests of American medicine. Such, I conceive, is the criticism which should animate and characterize the medical press of the country. Any other than this is illiberal, and unworthy of its high mission."

One of the probable causes by which editors are more or less influenced, and a free expression of opinion more or less trammelled, is stated to be found in the obligation under which publishers place editors by presenting them with books to be reviewed. This is a very grave and serious charge, and has already had the effect of stirring up the passions of those whose consciences convict them of the offence. But the accusation is evidently made with no intention of wounding the feelings of any, not even those editors who appear to consider themselves the special victims of the "Report," but for the purpose of calling the attention of journalists to the fact that, by receiving books as presents, they necessarily, although doubtless unconsciously, incur an obligation, which it is but natural they should endeavor to repay whenever they can do so without a most palpable violation of the truth. The correctness of this view is clearly recognized by certain well-known English journals, who advertise that they will not receive books sent to them gratuitously, but will purchase such as they wish to review. In proof of the fact that a favorable notice of their publications is expected by our publishers, the reporter refers to instances in which these gentlemen have ceased all intercourse with journals in consequence of condemnatory notices of some of their publications. So that in addition to the mere courtesy thus demanded of the journalist, it is shown that it is also his interest in some cases to admit nothing in his pages likely to offend the publisher. But how far this influence operates is left to the decision of each individual concerned. In disclaiming all intention to cast any insult upon either medical editors or publishers the reporter adds:

> "I have merely alluded to what I believe to be a habit into which some of the journalists of the country have fallen unconsciously in regard to the subject under discussion, and which they are unconsciously perpetuating. Nor, on the other hand, would I accuse the respectable body of republishers of any wrong intentions in their efforts to procure from the periodical press favorable notices of their productions. It is their business, as it is their interest, to promote the circulation of the works which they reprint. It is their pursuit; they live and grow fat by it. The American medical profession owes these republishers an immense debt for affording them in a cheap and accessible form, the works of our transatlantic brethren; as they owe us an immense debt for purchasing these works, and promoting their circulation, by the influence which we wield through the press, in the lecture-room, and in our private intercourse with each other. Thus far the obligation is mutual. But here let it cease. Let our journalists procure these reprints at their own expense, and we predict that a healthier tone will soon become apparent in their critical notices and reviews."

Under the fourth head, a still more prominent cause of impediment to the advance of our national medical literature, is stated to be "the little use that is made of the advantages afforded by private and hospital practice." Of our grievous neglect, as practitioners of medicine and surgery, to record the daily results of our observations in private practice, every one who takes a medical journal must be more or less aware, but it will no doubt astonish some of our readers to be informed, as we are told here, that not a single treatise on any branch of medicine or surgery has ever been furnished to the profession as the result of hospital observation. The author estimates the number of sick and wounded that annually enjoy the benefits of our various hospitals, almshouses, and asylums, at 120,000.

> "The physicians, surgeons, and accoucheurs who have charge of them must amount to several hundred, embracing a large share of the best medical talent and intelligence of the country; and yet what have these institutions done, what have these physicians, surgeons, and accoucheurs done for American medical

science, American medical art, and American medical literature? Where are the trophies which they have brought from this great battle-field of disease and accident? Where are the legacies which they have bequeathed, or which they are ready to bequeath to their profession and their country? Can any one point to one solitary work, of any note or respectability, that has emanated from their pen, as the legitimate result and effect of the immense opportunities which they have thus enjoyed? Where are the treatises which they have furnished us on clinical medicine, clinical surgery, and clinical obstetrics; on fevers, on eruptive diseases, and on diseases of the digestive organs, the lungs, the heart, and the brain; on wounds, fractures, dislocations, injuries of the skull, tumors, aneurism, amputations, resections, and various other important subjects? Where are their works on pathological anatomy and animal chemistry? Echo, alas! echo, alas! answers, Where, where! We have accomplished, literally and absolutely, nothing in any of these particulars. Need we be surprised, then, when a recent English writer* exclaims: 'We may safely say there is no American school of medicine; whereas there is a French, a German, an Italian, and an English. Our transatlantic offspring reprint, translate, and pirate the medical works of other nations, but they produce little of their own. Their pathology is chiefly French; their therapeutics English.' Mortifying as such an accusation is, it is certainly not wholly destitute of truth."

"Of the 120,000 patients who, we have supposed, are annually admitted into the various hospitals, asylums, and other charitable institutions of the country, at least ten thousand die. The bodies of many of these are doubtless examined, but where are the records of the results? I am not aware that one solitary great and important paper on pathological anatomy has ever appeared in our medical journals from the pen of a hospital physician, surgeon, or accoucheur."

In conclusion, the Report makes an earnest and patriotic appeal to the profession

"To throw off the yoke which has so long galled and oppressed us; to declare ourselves, as far as our schools are concerned, free and independent of the literature of Europe, from whatever quarter emanating; to encourage and foster our own authors; and, finally, to make the best possible use of the means, private and public, which are at our disposal for the establishment of an original, a vigorous, and an independent national medical literature.

"In view of the speedy and successful accomplishment of these desirable ends, I beg leave to submit the following resolutions:—

"*Resolved*, That this Association earnestly and respectfully recommend, first, the universal adoption, whenever practicable, by our schools, of American works as text-books for their pupils; secondly, the discontinuance of the practice of editing foreign writings; thirdly, a more independent course of the medical periodical press towards foreign productions, and a more liberal one towards American; and, fourthly, a better and more efficient employment of the facts which are continually furnished by our public institutions for the elucidation of the nature of diseases and accidents, and, indirectly, for the formation of an original, a vigorous, and an independent national medical literature.

---

* In Ranking's Half-Yearly Abstract, No. 22, p. 305, 1855. Philada., 1856.

"*Resolved*, That we venerate the writings of the great medical men, past and present, of our country, and that we consider them as an important element of our professional and national glory.

"*Resolved*. That we shall always hail with pleasure any useful or valuable works emanating from the English press, and that we shall always extend to them a cordial welcome as books of reference, to acquaint us with the progress of legitimate medicine abroad, and to enlighten us in regard to any new facts of which they may be the repositories."

Original Communications.

ART. I.—*On the Influence of Electrical Fluctuations as a Cause of Disease.* By S. LITTELL, M. D., Surgeon to Wills Hospital for the Diseases of the Eye and Limb, Philadelphia.*

THE immediate occasion of the present Paper—which in much both of form and substance has already been made public—was information from the late editor of the Medical Examiner, that he had received from Mr. Craig, of Ayr, in Scotland, a letter alluding to an article published by me in that Journal, expressing his concurrence in the views which it contained, and referring to an accompanying pamphlet, in which his own opinions were more fully detailed. His communication furnished opportunity and pretext for bringing the whole matter before the Society; and I have condensed my several papers into one, thinking that my humble essay, thus supported, would be better received, and more thoroughly considered, than it was likely to be under other circumstances. What I have thought and written may not produce in other minds the conviction which has been wrought in mine; but an independent observer, regarding the subject from a different position, may supply facts and reasoning which I have omitted, and thus give to it greater interest and authority. I have not yet read the pamphlet alluded to, and am entirely unacquainted, therefore, with the ground it covers, or the argument which it contains; but the gentleman to whom it was addressed, will, before our adjournment, either read the whole, or such extracts from it, as may be necessary to place it fully before the Society.

In no department of medicine is there more crude and unfounded theory than in that which treats of the etiology of disease. Theories framed in the infancy of science, and transmitted unquestioned from one generation to another, are still blindly adopted and implicitly followed; though their inconsistency with facts of daily occurrence, can hardly have escaped the observation of the intelligent and reflecting. The opinions generally prevalent on this subject are, indeed, hardly creditable to us as members of a learned profession, because they prove that we have not been guided in our reasoning by sound principles of philosophy. It is a maxim in science to assign no more causes than may be necessary to produce the effect; but we have disregarded this obvious restriction in a department of knowledge where it should have been more especially observed, and instead of taking a comprehensive survey of the action of morbific agents on the human system as a whole, have limited our attention too exclusively to the various pathological results, and needlessly invented a different cause for almost every aberration from the healthy state. Simplicity is found to be an attribute of the Almighty in all the operations of His hand; we are amazed at the number and diversity of the effects produced by the combinations of a few simple elements; and have reason to believe that as our knowledge increases, this characteristic will be still more apparent. Why should not the same be true also of the animal economy? It is a complex and intricate organism, composed of many different tissues, but all subjected to the control of a central power—the brain,—from any change in the action of which, innumerable deviations from a normal condition might, *a priori*, be anticipated. How much more philosophical then, to recognize a single principle capable of producing such change, than unnecessarily to multiply causes, and invoke the interposition of as many agencies as there are diseases in the nosology! We have imaginary miasms,—many of them supposed to be cotemporary in their existence,—for the several exanthemata, for influenza, for cholera, for dysentery, for each of many different kinds of fever, for hooping-cough, parotitis, &c. &c. In accounting for the phlegmasiæ, it is true, we are contented to veil our ignorance and flatter our vanity, under the convenient and comprehensive phrase of "taking cold;" an expression, however, to which we attach no definite ideas, and which, in its literal sense, the commonest observation shows to be incorrect.

---

* Read before the Medical Society of Philadelphia, Jan. 14, 1857.

An etiology so manifold cannot be true; and if the abnormal manifestations may, in very many cases, be more satisfactorily explained through the instrumentality of a single principle, it must be abandoned.

The analogy existing between the nervous force and electricity, first observed by Galvani, has been abundantly demonstrated by Dr. Philip, Majendie, and other physiologists, in their experiments on animals. Their actual identity, indeed, has been rendered not improbable; for nervous communication having been interrupted, the processes of digestion, respiration, and circulation are, for a time, performed as usual under the influence of electricity. It was, moreover, soon ascertained to have the power of exciting muscular contraction in bodies recently dead; while its remedial agency in certain complaints, especially those of a neuralgic character, has long been known; and with these facts to provoke and guide inquiry, it is surprising that the possible pathological consequences resulting from its deficiency in the atmosphere, or its rapid abstraction from the system, have not been more generally suspected and investigated. The arguments adduced by some physiologists to disprove its identity with the nervous force, and to establish instead, a state of correlation, are far from being conclusive; and even if this were admitted, it would not militate against the view I propose, which only requires such an affinity, or relation, that one shall be influenced by changes in the quantity of the other. Caloric, light, and electricity, are now regarded as probable modifications of the same element, and there is no reason why, under another modification, that element should not constitute the vis nervosa also. A strong presumption of their substantial sameness, is afforded by the existence of several species of fishes with electrical organs; the action of which is dependent upon their connection with nervous centres, varies in intensity with the extent of that connection and the health of the animal, is under the control of the will, and by a continual series of discharges is capable of exhausting the nervous energy to a degree sufficient, in some cases, to occasion death.

The electrical fluid is the grand agent in the production of many of the phenomena of nature. In her inorganic domain it is the probable cause of all chemical change, while in the vegetable kingdom it performs still more important functions; not only producing, in conjunction with its kindred agencies of light and heat, conditions favorable to the germination and growth of plants, but quickening them into life, and thus becoming the efficient cause of their development. Its intense and rapid passage—as in the lightning stroke—immediately kills the largest tree, and a very small shock sent through certain plants, will speedily cause their leaves to droop, and as certainly, though more slowly, extinguish their vitality. The approach of an electrified conductor to the mimosa pudica, or sensitive plant, produces no sensible effect, but if sparks be taken from it, the leaflets will shrink and close, as they do from mechanical contact. Its more steady and quiet operation is equally remarkable. An electrical circle has been formed by wires running under the beds of a garden, and the result has been greater vigor and rapidity of growth in the plants which they contained. It evidently performs the part of a general stimulant; which, when in moderate quantity, is salutary in its effect on vegetable life. May not the folding of the leaves of certain plants, as the mimosa, trifolium repens, &c., at the approach of evening, be owing to the abstraction of electricity which takes place at that time from the increased conducting power of the air?

A fluid so analogous to the nervous force, so subtle, fluctuating, and so universally diffused, might, *a priori*, be supposed to exert a very manifest influence over the higher organization of the animal economy. Its presence in a certain degree, seems indeed to be necessary for the healthy performance of all the functions. The conducting power of the nerves has been shown by the physiological experiments alluded to, and the anatomical structure of the brain, with all the phenomena of nervous function and action, would naturally lead us to regard the whole nervous system as an apparatus, through the medium of which, electricity, modified and restrained by certain laws, is made subservient to the purposes of existence. In other words, as a vital electrical machine, by means of which that fluid is both separated and distributed in accordance with the wants of animal life. What we should thus suppose, is found to be true in fact; electricity when present in excess, exciting the functions and exalting vitality, while a contrary effect is produced by its subtraction or deficiency. In a state of health and mature existence, when all the functions are vigorously performed, and the power of resisting noxious agencies is greatest, the disturbing influence of such fluctuations is comparatively slight; but under other circumstances they become a frequent and potential cause of disease. We have all experienced the feeling of energy and elasticity which is imparted by what we call bracing weather, when the air is clear, dry, and cold; and more strongly still, the sensations of chilliness and discomfort, when the atmosphere, loaded with moisture, has acquired an active conducting power, and its injurious operation is further increased by the agency of cold; which, under such circumstances, has a depressing, instead of a stimulating effect. The nervous system of some susceptible individuals is thrown into commotion by an approaching storm; and I have a patient, for many years the victim of an annual catarrh, whose sufferings are always greatly aggravated by the occurrence of thunder at any time during the paroxysm. Rheumatic, neuralgic, and paralytic persons, and those who have recently suffered from sprained or fractured limbs, can predict with unerring certainty, an impending atmospherical change;* and the evening exacerbations which we observe in fevers and other complaints, are owing to the same cause; the system in its disturbed or debilitated condition being unable to bear, without suffering, electrical changes which would have little or no perceptible influence in a state of health. The pain of rheumatism, neuralgia, and the uncomfortable sensations accompanying catarrh, are in like manner, and for the same reason, all aggravated by the approach of evening.

---

* It is worthy of remark that these effects are chiefly produced in the elemental changes which precede a storm; when the snow or rain begins to fall, the electrical equilibrium is restored, and, if the vascular system has not become involved, neuralgic pains and uncomfortable sensations subside.

It is these changes, moreover, consequent upon the withdrawal of the sun's rays, by which the dew is precipitated, and the conducting power of the air increased, which render exposure at this time so dangerous in certain districts of country, in the early autumnal months; and not as has been supposed, the greater prevalence on such occasions of miasmatic exhalations. At a later period of the evening, when the dew has actually fallen, the atmosphere being drier, is less penetrating, and exposure, consequently, less injurious. The early morning air, though charged with the ascending dew, is less deleterious, because, among other reasons, it acts upon a body in some measure invigorated and refreshed by sleep; but its influence, in debilitated states of the system more particularly, is nevertheless prejudicial; and hence the recommendation to avoid exposure on an empty stomach, the prescription of bitters, &c., which act by imparting temporary energy to the frame. The extreme sensibility to electrical fluctuations, of the affections which are purely nervous, is a subject of common observation. Every physician must have observed the greater frequency of asthmatic attacks before a change of weather. The epileptic paroxysm occurs most frequently in the night; and while this may, perhaps, be explained in part, by the temporary suspension of the will, and congestion of the brain in sleep, it is not irrational to attribute it in some degree, to the electrical changes which occur at that period; especially as we know that some persons subject to this malady, are only affected at the vernal and autumnal equinoxes, when these changes are greater than at other times. Rheumatism and neuralgia, hardly excepted, there is not a disease in the whole catalogue, the phenomena of which are in more obvious harmony with the electrical theory than those of epilepsy. The periodical accumulation of excitability, and its exhaustion by the paroxysm, forcibly recall the circumstances attending the charge of the Leyden Jar.

The familiar expression of "taking cold," which is supposed to account so satisfactorily for many of the ills to which flesh is heir, may be mentioned as another example of such influence. This is owing, not to variations of temperature, as generally believed; but to disturbances of the electrical equilibrium, of which these variations are the effects or accompaniments. It is not unusual for individuals, especially those of tender age, to retire in apparent health to rest, in a comfortable room and bed, and to awaken after some hours, with a sore throat, or a paroxysm of croup; and we have all known persons to be attacked with these and other complaints, said to arise from "cold," who have been closely confined for days or weeks to apartments, the air of which has been steadily maintained at an elevated temperature. They could only have been affected, therefore, by changes in the electrical constitution of the atmosphere without, and these would be felt with the instantaneousness of thought, however the individual might be situated and protected.

The effect on the gravid female of certain atmospherical conditions, has long been observed: "cold, rainy weather, and low, damp, miasmatic localities," says Professor Gilman, "have been recognized since the days of Hippocrates, as disturbing pregnancy and causing abortion. To the influence of the atmosphere is to be attributed the frequency of abortion, or other mishap in pregnancy by which some years are signalized." The probable explanation is, that the expenditure of the nervous energy in the reproductive process, renders the system more liable to be affected by electrical changes; which again are increased by the greater conducting power of the atmosphere in the places and seasons mentioned. Insane persons, on the other hand, have always been in a remarkable degree insensible to atmospherical vicissitudes, as well as free from epidemical influences; and this exemption is due to the habitual exaltation of cerebral action in their case.

These, and a host of similar facts may be adduced to prove that there is nothing improbable in the hypothesis, that under circumstances of predisposing, or concomitant influence, general in their operation, or affecting the individual only, pathological consequences of far greater gravity, variety, and extent, may be occasioned from the exhaustion of nervous energy by the subtraction of electricity through changes in the distribution of that fluid; and that the exhaustion thus induced, may be the proximate cause, not only of the exanthemata, and of most other forms of fever, congestive, or otherwise; but also of cholera, influenza, hooping-cough, erysipelas, dysentery, parotitis, the idiopathic phlegmasiæ, &c. &c. Among the circumstances alluded to, as affecting individuals, and thereby giving efficiency to electrical fluctuation, may be enumerated, fatigue, fasting, loss of sleep, the depressing passions, and whatever tends to debilitate the frame, and exhaust or diminish nervous power.

To my mind the conclusion is irresistible, that an element which thus pervades all nature, and plays a part so important in all her operations; which is so analogous to the nervous force that it may even be substituted for it in the performance of its appropriate functions; which, when in usual quantity, maintains the organism in healthy action, and stimulates or destroys according to the degree of its excess; must by its deficiency or subduction, especially in debilitated states of the system, and when aided by any cause tending of itself to depress cerebral action, exert a far more potential influence for evil.

The long continuance, in various degrees and combinations, of heat, cold, drought, and humidity, or the marked predominance of any one of these conditions, will create predispositions which determine the character of the prevailing diseases. A hot and dry summer, for instance, will be nosologically distinguished by affections of the alimentary canal. A higher grade and longer continuance of heat, producing a greater degree of exhaustion, and occasioning a strong tendency to inflammation of the stomach, liver, and other organs, is the predisposing cause of yellow fever. In the early autumnal months, the stimulus of light and caloric being lessened, while the system, exhausted by the previous heat, remains weak and impressible, and, therefore, easily affected by electrical changes,—which are promoted by various meteorological circumstances, as cold, humidity, &c.,—intermittent and remittent fevers, in which the pathological condition is rather congestive than otherwise, chiefly abound. The cerebral functions are impaired, innervation is lessened, vascular congestion takes place, and reaction following, the usual febrile phenomena are developed, which assume an intermittent, remitttent, continued, or typhoid form, according to the intensity of the cause, or the degree of the pre-existing debility. A peculiarly raw and searching atmosphere precedes and accompanies influenza, a disease which is characterized by excessive nervous disturbance and debility; while an open, wet, and variable state of the weather, such as we frequently see in November, is favorable to the production of the exanthemata, typhoid fever, erysipelas, &c. The reaction occasioned by a higher degree of cold, the air being dry, and having, therefore, little or no conducting power, is salutary and invigorating.

In our reasoning on this subject, the effect of the diminished light and heat occasioned by the sun's southern declination, must not be overlooked. If this diminution be sufficient to suspend vegetable life, and convert the beauty of earth into the gloom and severity of winter, it is surely no unreasonable supposition that it must also exert an influence injurious to animal existence; which would be more sensibly felt, but for the reaction it calls forth, and the power of accommodation which the organism possesses. The illuminating and heating rays of the solar beam are those which exercise the greatest apparent power over the human frame. They act in their intensity as powerful stimuli, exciting the circulation, and exhausting the vital force in a remarkable degree; and according to a well-known law, their withdrawal, or considerable diminution, must necessarily be followed by a depression corresponding to the previous exaltation.*

The view which I have taken of this subject is not wholly speculative. The diminution of magnetic power during the prevalence of cholera, has been ascertained by direct experiment. Mr. Mather, of South Shields, England, states that in 1849, when cholera of a very fatal character was epidemic in his neighborhood, he found, as the result of numerous observations carefully made, that a magnet which ordinarily carried two pounds and ten ounces, would, when the atmospherical indications were nearly at their worst,—the air being saturated with moisture—sustain only one pound and ten ounces; the degree of its attraction varying with, and being in inverse proportion to, the virulence of the disease.

---

* From the sevenfold nature of the sunbeam, we should reasonably infer the possession by each ray, of a different virtue, or property. That of four of them has been already ascertained,—the lighting, the heating, the chemical, and the phosphorogenic property.

The same year the number of deaths in Paris, from this pestilence, rapidly increased until the eighth of June, when they amounted to six hundred and twenty-three. On the evening of that day there occurred a thunder-storm of unusual severity, and the cholera immediately began to decrease; by the eighteenth of the month there was a daily report of one hundred only; and at its close, the mortality had fallen to thirty. Similar observations have been recorded by others; and from the consideration of all the circumstances attending this disease, with its preference for the great water-courses of a country, &c., its dependence upon a state of deficient electricity may be regarded as pretty certainly established. Whether operations going on in the interior of the earth, do not influence the electrical condition of its surface, is a subject which may demand investigation.* The prevalence of cholera during the past year in Sicily, Madeira, and Central America,—all of them volcanic countries,—would seem to give some plausibility to the conjecture. The air of the Pontine marshes, near Rome, so fatal to those within its influence, is deficient in electricity, and possibly from the same cause. But it may be remarked, in passing, that the air of marshes, and still water generally, is more prejudicial than that of rivers or running streams; partly for the reason, that the air, saturated with moisture, undisturbed by atmospherical currents, and possessing, therefore, more active conducting power, lingers upon them in unbroken mass, long impervious to the rays of the sun; and partly, because, in the latter case, the motion of the particles among themselves, and their friction against the hills, trees, &c., when driven by the winds, is itself a principal cause of atmospherical electricity. It is probably in both of these ways, that the agitation of the air, by the frequent passage of a steamboat—itself a most active hydro-electric machine,—increases the salubrity of places in its vicinity, or restores it when lost; as, for instance, in the case of the Schuylkill above the dam at Fairmount. The meteorological constitution in which influenza appears, would incline us to predict with confidence the origin of that complaint in defective electricity; and most of the diseases to which I have before alluded, are notoriously most frequent in seasons of the year when electrical currents and changes are greatest, and their injurious operation aggravated by moisture and other auxiliary influences. There are many facts, moreover, irreconcilable with the commonly received notion of the malarious production of fever; and without absolutely denying the deleterious action on the animal economy, of exhalations from decaying vegetable matter, I am fully convinced that these are not the general cause of the disease, and that a part far too prominent and exclusive, has been attributed to their agency. The theory afforded a plausible solution of many things hard to be understood, and being supported by a multitude of seeming facts, has been too hastily received and adopted by the profession. The complaints supposed to be thus engendered, prevail at a season when electrical vicissitudes are greatest, and the body, debilitated and otherwise disordered by the protracted heat of summer, is most sensible to their impression; they are often observed where there is no reason to suspect the operation of malaria; are notoriously reproduced by other causes after they have once occurred; and are promptly cured by means which eliminate no poison, but merely restore the lost tone of the system,—frequently, indeed, by mental impressions alone.

---

* The proximity of such operations to the surface of the earth, and the nature of its crust influencing its conducting power, would, of course, render some places more liable to be affected than others.

Were it true that intermittent and remittent fevers owe their origin to paludal exhalations, or to malaria, however generated, we should naturally expect to find them most prevalent when vegetable decomposition is greatest; but a moment's reflection will show that the reverse of this is true. In the Middle and Western States, and perhaps throughout our country, September is the sickliest of the autumnal months; and yet vegetable life still flourishes, often in almost undiminished vigor; the foliage preserves its verdure and freshness, and nature exhibits few symptoms of her approaching decay. The days, moreover, have become considerably shorter, the weather cooler, and it is evident, therefore, not only that *materiel* for decomposition is not supplied in greater abundance, but that the causes which concur in that process, are really less active than they were in the preceding months. Those seasons, moreover, which are characterized by an unusually late fall,—vegetation being fostered by timely rains, and long unchecked by frost,—are precisely those in which autumnal fevers prevail more extensively, though, owing to the system being less exhausted by heat, of a milder type, than under other circumstances. The year 1855 may be adduced in illustration. Summer and autumn were both marked by cool, wet, and variable weather; the country, perhaps, never preserved its freshness to so late a period; and yet, intermittent and remittent fevers were more than ordinarily frequent, not only in localities where they are usually met with, but also on elevated grounds, celebrated for their salubrity, and even in the very heart of the city. Circumstances like these, cannot be accounted for on the theory of malarious exhalation, but receive an easy solution from the agency of humidity in increasing the conducting power of the atmosphere, and thus giving greater effect to electrical changes.

That intermittent and remittent fevers prevail epidemically in the fall, and occur only in sporadic cases during the spring, is owing to the circumstance, that in the former case, the system, unduly stimulated by the heat of summer, and left in a state of exhaustion and debility by its withdrawal, is less able to resist the electrical fluctuations which are the efficient cause of their production. Seasons in which the warm weather has been unusually protracted, and the winter uncommonly mild and open, are precisely those in which the most desolating epidemics have occurred; for the reason that the system, uninvigorated by cold, falls a ready prey to the action of the cause which I have suggested. In some climates, as in that of Guayaquil, this is the invariable state of things. The winter is the period of almost incessant rain for six months' duration, and the mortality is, consequently, very great.

The human frame possesses a great power of accommodation to external agencies, especially when these are uniform and constant in their action. The air of the sea, and generally of places in its vicinity, though saturated with moisture, is healthy for this reason; for this moisture being general and invariable, tends to maintain the electrical equilibrium, though perhaps at a lower range; while the system being less enfeebled and disordered by heat, the atmosphere purer and denser, and the nights cooler and more refreshing, such fluctuations as do occur are less sensibly felt. Hence also it is, that in a very rainy season, localities which have been the immemorial haunts of fever, become comparatively healthy; while upland districts rarely visited by it, suffer in their turn.

A striking instance of a country in which every circumstance of climate, soil, and atmosphere, might be supposed to unite in the production on a grand scale of paludal exhalation, is mentioned by Dr. Hooker in his Himalayan Journals. The delta of the Soormah extends for a distance of eighty miles along the old bed of the Burrampooter, a river five miles broad; and forms an immense still and narrow sheet of deep clear water, called the Jheels. The area drained by the Soormah is scarcely raised above the level of the sea, and contains about ten thousand square miles. In the dry season the Jheels are marshy, but during the rains, which are excessive on the neighboring mountains, they are entirely overflowed; the water rising to within a few inches of the huts which are built along the borders of the rivers that traverse it. The soil, sandy along the Burrampooter, is more muddy and clayey in the centre of the Jheels, with immense accumulations of vegetable matter in the marshes, consisting chiefly of decomposed grass-roots and leaves. "The climate of Chattuc," says the

Doctor, speaking of one of the villages, "is excessively damp and hot throughout the year, but though sunk amid interminable swamps, the place is perfectly healthy. Such indeed, is the character of the climate throughout the Jheels, where fever and ague are rare; and though no situations can appear more malarious than Silpat and Cachar, they are in fact, eminently salubrious. These facts," he continues, "admit of no explanation in the present state of our knowledge of endemic diseases. Much may be attributed to the great amount and purity of the water, the equability of the climate, the absence of forests, and of sudden changes from wet to dry; but such facts afford no satisfactory explanation." Undoubtedly they do not, on the supposition that malaria is necessarily concerned in the production of such complaints; but discard that hypothesis, and they receive obvious elucidation on the theory of their electrical origin. Humidity alone, when universal and constant, tends, as I have said, to preserve the electrical equilibrium; and the great extent of their surface gives to the Jheels the character of an inland sea; the steady warmth of the weather sustains the vital actions; while the circumstances mentioned by Dr. Hooker, must render electrical vicissitudes slight and infrequent; and hence their exemption from the so-called miasmatic diseases.

There is no circumstance indeed, connected with our autumnal fevers; their endemic, and occasional epidemic prevalence, the influence of moisture, the comparative exemption of large cities, the agency of winds, &c., which cannot be more scientifically explained on the electrical, than on the miasmatic hypothesis; and the former has the additional advantage of substituting an adequate, existing, and recognizable cause, for one which rests on no certain foundation, eludes all chemical scrutiny, and is to a very great extent, if not altogether, imaginary.

The objection to this view, that disturbances of the electrical equilibrium are of continual occurrence without being followed by such effects as are here attributed to them, is more specious than sound. It fails in not appreciating the consequences of the prolonged heat of summer, which, exhausting the nervous energy, leaves the system, in the early autumnal months, weak, susceptible, and predisposed to disease; and it is moreover, not altogether true in fact, for intermittent and remittent fevers are observed, though, of course, much less frequently, at other seasons of the year. As winter approaches, the invigorating influence of cold is felt in the increase of nervous energy; oxygen is breathed in greater quantity with a denser atmosphere; reaction follows the previous depression; and the predisposition changes to other forms of morbid action. It is to this circumstance, and not to the destruction by frost of malarious exhalation, that the cessation of our autumnal fevers should be ascribed.

I do not deny that the foul emanations arising from the decomposition of animal and vegetable matter, which vitiate the atmosphere of our large cities, are a concurrent cause of disease. They are often present in a degree sensibly offensive, and cannot be otherwise than extremely prejudicial to health. Such vitiation, and the impression of excessive and long-continued heat—the latter being absolutely necessary to its production,—are the great predisposing causes of yellow fever; and only require an atmosphere negatively electrical to give full effect to their injurious agency. The increased conducting power of the air when loaded with moisture, and its greater contamination from the embouchure of sewers, &c., account for the first appearance of the disease in the immediate vicinity of a river, or of the sea, upon which, places subject to it are situated. Yellow fever, as I have elsewhere observed, is an inflammatory affection, which expends its force generally and principally on the stomach and collatitious viscera, but may be complicated also with inflammation of other parts predisposed to increased action. It runs its course with great rapidity; and derives its fatality both from its involving vital organs, and from its being engrafted upon an exhausted state of the system.

The crews of vessels who have continued in good health while at sea, are often attacked by yellow fever, on arriving at ports where the circumstances which give rise to that disease, exist in high degree—though it may not previously have appeared among the inhabitants who have been in some measure accustomed to their influence,—and are unjustly charged with having brought it from the places whence they sailed. After a voyage, in which, from the constant impression of a moist atmosphere, the vital forces are rather depressed below, than elevated above their par condition, they not only exchange a healthy air for one rarified and impure, but their duties generally become more laborious and exhausting; and the system thus predisposed, with its energies perhaps further impaired by excesses of various kinds, is more readily affected by the electrical fluctuations which are engendered by the action of the sun upon the land. The earth, as we all know, receives and radiates far more heat than the water, and evaporation, with all the circumstances connected with electrical fluctuation and change, is more active along the line of separation.

That such diversity of effect should be produced by the same morbific agent, constitutes, as has been seen, no valid objection to the hypothesis which I advocate. Man, in his ignorance, is fond of multiplying causes, but science is daily demonstrating the simplicity of truth. In the present instance there is no necessity for a multifarious agency. The human frame is so constituted, that whatever impairs the energy of its controlling organ—the brain,—diminishes, of course, the supply of nervous power to all parts of the body; and this defective innervation may give rise to aberrations as various as there are tissues and organs to be acted upon. Its most common result is dilatation and congestion of the capillaries, with all the phenomena of inflammation. Thus, in the dermoid tissue, we may have derangement of the capillary circulation, or of the exhalants, or of its secretory apparatus; constituting respectively, scarlet fever, measles, and small-pox; or we may have cholera from the same cause directed to the mucous membrane of the stomach and bowels; or any one of the phlegmasiæ, according as the development of latent imperfection, or accidental causes may determine. To those, therefore, who consider the complicated organism of the human system, it will not appear strange that results apparently so different, and yet in reality essentially the same, should be produced through the instrumentality of a single principle, directed in its morbid manifestations by predispositions arising from a variety of circumstances, existing in countless combinations, and involving whole communities, or affecting individuals only.

The manner in which morbid action is produced by the abstraction of electricity from the system is sufficiently indicated by what has been already said; but it may perhaps be made still clearer by one or two additional examples; and scarlet fever, as being in its uncomplicated form, a familiar instance of a general inflammatory affection, will furnish an apposite illustration. This disease, though occasionally observed in every season of the year, prevails most extensively in autumn and spring,—periods during which electrical fluctuations are greatest, and their influence is promoted by the various meteorological circumstances so often mentioned before; and, as might be expected, is chiefly confined to children, whose power of resisting hurtful impressions, is less than that of persons of mature age and vigor. The action of the brain and nervous system being depressed, or otherwise disturbed by the rapid abstraction of sensorial energy, and their control over the capillaries lessened, these consequently become dilated; the circulation through them is retarded, and a state of things is induced, closely bordering on inflammation. This, though general in all the tissues, is more particularly observed in the mucous membrane of the digestive system, and in the skin; as evinced in the former by the redness of the throat, and the projecting papillæ of the tongue,—sometimes also by the occurrence of nausea or diarrhœa,—and in the latter by the scarlet efflorescence, and other symptoms of increased action,—the predominance of which, in this tissue, commonly indicate a tractable form of the complaint. Meanwhile, the brain reacting against the morbific agency, separates and transmits the nervous energy as before; but there is now a demand for a greater supply, in order to restore the impaired tonicity of the capillaries;* this restoration is accomplished through the exaltation of its functions occasioned by the febrile movement,—an action of salutary tendency when it does not transcend the required limits,—and after a commotion of greater or less severity, occupying necessarily a nearly definite period, the system reverts to a state of convalescence. Such is the order of things in scarlatina simplex. In the anginose variety, the pathological alterations proceed one step further. The circulation through a portion of the capillaries is not only retarded, but absolutely arrested; congestion follows, and inflammation is set up in the fauces, where, from the laxity of the parts, and the exposed condition of the vessels, we should naturally expect to find it. In still more aggravated grades of the malady, whether owing to the intensity of the cause, feebleness of constitution, or some other circumstance affecting the individual, the powers of life are prostrated, in many instances beyond the capability of reaction; the brain being deprived of its nervous energy, delirium, or coma ensues; and after a struggle of varying duration, death generally closes the scene—often supervening in a very few hours.

---

* It is this demand requiring all the ability of the system to sustain, which renders depletion, and other measures producing still further exhaustion, so dangerous in the treatment of this disease.

The year which has just passed, presented meteorological conditions favorable to the production of this disease; and it has consequently prevailed very extensively. The winter was excessively severe, and the cold was protracted throughout the spring. The early part of the summer was very warm, with the coolest August that had been known for a long period of time. The autumn was open and variable; and the mortality towards its close amounted to more than forty cases a week. A few consecutive days of clear, cold, and dry weather, occurred in the early part of December, and were followed by a marked diminution of the disease,—the number of deaths for the week following being only thirty. It subsequently became chilly, wet, and variable, and the mortality again increased beyond any previous example. The whole mortality for the year, from this cause alone, was nearly or quite one thousand. In New York, it amounted to more than twelve hundred.

The origin of measles may be explained in like manner. The difference being that in scarlet fever, the morbific influence exerts its force chiefly on the capillary circulation; whereas in measles, while it implicates the pulmonary, rather than the gastro-mucous tissue, it receives from some predisposing cause,—perhaps a somewhat greater degree of cold, or the same degree acting upon a system less debilitated, as in the spring—a determination to a different part of the skin; probably its exhalant vessels. In small-pox another, and more secretory portion of this composite structure is affected, and hence its contagious character.

The application of the same mode of reasoning to the phlegmasiæ is sufficiently obvious. An individual, from exposure in a raw and damp state of the weather,—the physical powers being perhaps depressed by fasting, fatigue, or some other predisposing cause, becomes unwell, and is said, in common parlance, to have "taken cold." More correctly speaking, the sensorial energy has been abstracted from the system more rapidly than it could be generated without disturbance of the cerebral functions; the effect is felt in the diminished innervation of some organ, liable from congenital or acquired predisposition, to fall into diseased action; and as a consequence, inflammation takes place either in its parenchyma, or investing membrane, as circumstances may determine.

The exanthemata prevail chiefly in early life, when the nervous system is not only predominant and impressible, but there is, moreover, from their greater functional activity, a natural tendency to affections of the dermoid and mucous tissues; the predisposition inclining, in after years, rather to affections of the contents of the great cavities. The exemption from a second attack, though by no means so general as is commonly supposed, increases with the more confirmed and vigorous action of the brain; and these diseases, therefore, unless there be a strong constitutional tendency or the predisposing cause exists in a high degree, rarely affect adults.

When the meteorological conditions are favorable to the production of small-pox, even vaccination will confer no immunity.. That it appears to afford protection under any circumstances, is owing partly to the more confirmed vitality and different morbid predispositions of later life, and partly, also, to the fact that the conditions alluded to, combined with other depressing causes, as insufficiency of food and clothing, imperfect ventilation, neglect of cleanliness, &c., which so greatly facilitate their action, are rarely seen in this country.

For the professional expression of this opinion, Mr. President, notwithstanding my avowed practical conformity, I have been publicly arraigned by an intelligent and respectable member of this Society, as "promulgating new and doubtful doctrines, calculated to cause misgivings as to the virtue of a 'widely-adopted and long-cherished' blessing," in which he has the temerity to say that medical confidence is still undiminished; though it is known to the veriest tyro, that its advocates, driven from the ground of perfect immunity, have been obliged to resort to a modified protection,—creating a varioloid disease to explain a degree of mildness which is owing to improved modes of living and more rational treatment,—and are, moreover, divided among themselves as to the necessity of the repeated, and even septennial employment of their supposed prophylactic!

I am far from supposing that electrical fluctuation is the sole cause of morbid action. Disease once induced, has, in some instances, the power of self-propagation, and often originates, moreover, from other causes, operating as well within as without the individual; but when it prevails epidemically, or in sporadic cases of complaints sometimes epidemic, when there has been no exposure to contagion, and on all occasions when it is said to arise from "cold," its etiology I believe to be as I have described. Whatever, indeed, impairs the nervous energy may operate in the same manner, and produce, under similar predisposing influences, the same results. I have seen cases of scarlet fever and variola arising, as I supposed, from fatigue alone; and I observe that Evelyn states in his Diary, that one of the Princes of the Royal Family was attacked by small-pox of a confluent and fatal character, after excessive dancing.

When the predisposition is wanting, even contagion will be sometimes nearly, or altogether inoperative, and people are often exposed to it with perfect immunity. Variola itself, under such circumstances, will not always spread beyond the individual affected; and may even give rise to disease of a different kind. I have seen cases of fatal congestive fever without the characteristic eruption, manifestly caused by attendance on the confluent variety of that disease.

The subject opens a wide field for observation and reflection, and will require, on very many topics, an entire reconstruction of medical sentiment. Several complaints now attributed to contagion, will be found to spring from a cause which no isolation could evade; demonstrating thus the inutility and folly, as well as the mischief of quarantine regulations. Not only malaria, but the whole tribe of atmospherical miasms, with vaccination, and several other widely-adopted and long-cherished opinions, are destined to fall before the more rational theory which it inculcates; while it cannot fail to exercise also, a beneficial effect upon practice, in making the preservation and restoration of nervous energy a prominent object of regard both in health and disease.

It is not to be supposed that an hypothesis which allows of no divided empire, but seeks to exalt itself upon the ruins of what composes so large a part of medical literature, supplies so much of medical phraseology, and has exercised an influence so controlling over medical opinion, will be received without strong opposition. A host of prejudices will start up in arms against it, and may deprive it in many minds of the consideration which it merits. These should not be permitted to interpose obstacles to the pursuit of truth. I ask for it only a candid and thorough investigation. If it be true, as I firmly believe, it will ultimately triumph; and if otherwise, it should be refuted and rejected. It has been held by me with increasing conviction for more than twenty years; and from the clear insight which it gives into much that without it would be dark and contradictory, I should be happy to impart the confidence which I feel, in equal degree to others.

The doctrine is fruitful in its practical applications, and involves whatever may protect the system against the fluctuations of this potent and all-pervading principle. It supplies us with an intelligible reason why, in the selection of a residence, we should avoid localities the air of which is habitually charged with moisture, and its conducting power thereby increased, whether from the nature of the soil, or the vicinity of water. It teaches us, for a similar reason, to avoid exposure, in feeble states of health, to the early morning and evening air of the country, when intermittent and remittent fevers are rife; and when such exposure is unavoidable, points out the propriety of sustaining the vital powers by a previous meal, and the exhibition of some tonic or stimulant. It explains how it happens that in certain seasons, and during the prevalence of certain winds, situations ordinarily salubrious become unhealthy. It instructs us, moreover, during the existence of any epidemic, to abstain from everything which may depress or exhaust the nervous energy, and to maintain the action of the brain in its accustomed, or even in increased vigor, as well by the stimulus of hope and confidence, as by the use of means which exert their influence more especially upon that organ; affording thus the probable rationale of belladonna and other prophylactics. Whatever, indeed, sustains and exalts the nervous power, must necessarily tend to avert disease; and in the autumnal season more particularly, when the system, before its reaction under the influence of cold, is left in a condition not unlike that of an inebriate from whom his accustomed stimulus has been withdrawn, the general prescription of some appropriate tonic might be expected to prove especially useful. In the late expedition up the Niger, a river so often fatal to previous explorers, the health of the crew was preserved in a remarkable manner by the exhibition of quinine, morning and evening, with other hygienic precautions; and the same course might be advantageously adopted by vessels arriving at our ports during the prevalence of yellow fever. It guides us, furthermore, to a right practice in many affections now somewhat empirically treated; warning us to abstain from depletory, and other disturbing measures, in scarlet, typhoid, and other fevers, where the nervous energy is already impaired through the debilitating nature of the cause, and the subsequent reaction is merely an effort of the vis medicatrix to restore the lost balance of the system. A want of due innervation being a primary deviation in the train of morbid action, it holds out a reasonable hope of subverting certain complaints in their incipient stage, by the administration of tonics, as quinine, in large doses, before the vascular system has become implicated; and forbids a resort to the lancet, at least until such implication has taken place, and reaction, permanently secured, threatens, by its excess, to endanger some important organ. It abates, in many instances, as in scarlatina and rubeola, the dread of contagion; and relieves us from the supposed necessity of purifying the blood by the elimination of an imaginary materies morbi. It suggests the necessity of adequate clothing of appropriate quality,—that is, of non-conducting materials, as woollen or silk,—and other precautionary measures, in the management of children; and finally, admonishes us of the importance, at all times, of preserving the vital forces in their best possible condition, and thereby of affording to the vis medicatrix full opportunity of accomplishing its recuperative tendencies.

It might perhaps be supposed, on first impression, that disorders originating in a temporary abstraction of electricity, ought to be cured by the artificial supply of that fluid; and this supposition would not be unreasonable if our bodies, instead of being living systems, were inanimate machines. In the actual constitution of things, however, other morbid actions speedily follow the temporary relaxation of cerebral or nervous control; various complications ensue; and effects are produced which can only be obviated or repaired in accordance with the laws which govern the animal economy alike in health and disease. I have not found electricity of much value in the treatment of disease, until the system had been brought, by other measures, nearly or quite to its par condition, and the suspended function only required an appropriate stimulus to call it into activity.

In what has been said, the substantial identity of the vis nervosa and the electrical fluid has been assumed; but as before observed, this is not necessary for the truth of the theory which I have advanced. It is sufficient that there should be such a reciprocal relation between them that fluctuations in the one, will produce a corresponding change in the other—the morbid alterations being accounted for with equal clearness on either supposition,—and thus much, I presume, will be conceded by all physiologists.

The theme is a prolific one, and the ideas thus imperfectly expressed, far from exhausting the subject, must be regarded as little more than suggestive. They are not wholly original; for the electrical origin of several diseases has by some physicians long been suspected, and as respects one of them—Asiatic cholera—well-nigh established; but I am not aware that the hypothesis has ever been so fully developed, or received so extended an application as I have given to it.

To my mind it harmonizes and elucidates many discordant and otherwise inexplicable phenomena; inculcates a rational and conservative practice; and while by its adoption we substitute a simple, intelligible, and effective etiology, for one complex, contradictory, and inadequate, we get rid of much of the fanciful theory and unfounded reasoning, which have so long bewildered and disgraced our profession.

It is certainly more philosophical, and more in accordance with the operations of the divine Author of nature, who produces effects the most diverse and wonderful, by the agency of a few simple elements, to ascribe the causation of the diseases we have been considering, to a single instrumentality, capable, from its potent, fluctuating, and all-pervading nature, of accomplishing, through the governing organ of the animal economy, all that is thus attributed to it; than, like the heathen of the olden time, to create a deity for every effect, and people the invisible realms of medicine with as many miasms as there are maladies incident to the human frame. The general predisposition, individual tendency, the negative electrical condition of apartments vitiated by respiration, and other depressing influences, will satisfactorily account for much that in many diseases has been attributed to contagion.

The fiction, that there are floating in the atmosphere, miasms which enter into the circulation by respiration or otherwise, acting as a poison to the blood, and severally producing scarlet fever, measles, small-pox, &c.,—for these diseases often prevail in the same neighborhood, or household, and, two of them at least, sometimes in the same person,—might be very well for the age in which it was invented; but in the light of modern science, is, in my judgment, as absurd, as I believe it to be unfounded.

It is gratifying to perceive that the medical mind, so long held in the leading-strings of authority, is beginning to break the flimsy fetters which have bound it, and to assert its prerogative of independent thought. I have conversed, of late years more especially, with intelligent physicians from various parts of our country, and have found in many of them a strong feeling of dissatisfaction with the opinions prevalent on this subject, though they knew not what better to substitute in their stead. Contradicted by facts of familiar observation and occurrence, they are evidently losing their hold on the inquisitive and reflecting; and must, ere long, give place to views more in accordance with the dictates of a sounder philosophy.

I impute no fault, and cast no discredit on those who have gone before, and from whom they have been derived to us. They lived before the era of modern discovery, when electricity as a science did not exist; when its action upon the animal system, and the marvels of the telegraph were unknown; and the theories which they invented to reconcile and explain the phenomena before them, were not behind the philosophy of their age; indeed, they may be said to have been far in advance of it, for their authority has remained unchallenged almost until now. The demerit is all our own, in that, enamoured of their antiquated lore, we have stereotyped their errors, and cling to them as pertinaciously, as though they were rigid deductions drawn amidst the brighter revelations in physical knowledge, which it is our privilege to enjoy.

Surely the discovery of electricity, its capability of being temporarily substituted for nervous power in the process of digestion, &c., its action in producing muscular contraction in bodies recently dead, and its instantaneous transmission along the telegraph wires, manifesting thus a striking analogy to the nervous force or energy, might have been expected to awaken inquiry, and exert a modifying influence on opinions formed long anterior to that period. The nerves, being themselves tracts of medullary matter, do not act as conductors merely, but separate or secrete the energy which they transmit, and probably govern the capillary system in some measure independently of the brain.

Electrical fluctuation, as already intimated, has been conjecturally assigned, with more or less confidence, as the cause of several complaints; but few attempts have been made to show by argument the grounds upon which such conjecture reposed. Dr. Wood, in his Practice of Medicine, states that Sir James Murray, so long ago as 1844, maintained, in an article published in the Dublin press of that year, that the true malarious agents are electro-galvanic currents and accumulations, which produce disease by disturbing the electrical equilibrium of the body; an opinion identical with that, which, with wider extension, I have advocated in the present essay; though by what reasoning it is supported by him, I am entirely ignorant, for I have neither seen his paper, nor any other on the subject; and what I have written, therefore, is the exclusive result of my own observation and reflection. I have even abstained from reading the monograph of Mr. Craig, in order that the matter might be brought before this learned body, as the elaborated conclusion of two isolated and independent minds, employed unknown to, and uninfluenced by, each other, in the solution of the same problem.

I have not aimed at demonstration; but I hope, Sir, that I have succeeded in creating such a presumption of the truth of the theory which I have advocated, as gives it a fair claim to attention, and I commend it accordingly to the consideration of the Profession.

ART. II.—*Stricture of the Colon. Amussat's Operation.* By G. R. HENRY, M. D., of Burlington, Iowa.

ON Wednesday, the 3d of December, 1856, I was called to see Mr. J. M. Swan, æt. 45, of nervous bilious temperament, who told me there had been no action on his bowels since the Saturday previous, and but little for a week or ten days prior to that time.

During the past two years I had been called to see him several times, on account of constipation, which I had hitherto been able to remove by the ordinary cathartics, and which I had attributed to the sedentary life he was leading. I supposed this attack would yield as the former ones had done, although he told me he had taken several doses of senna tea without effect. I gave him a full dose of calomel and Dover's Powder, directing it to be followed the next morning with the black draught. I called about noon the next day; found there had been no action upon the bowels, but great commotion in the small intestine. I directed enemas, which brought away nothing but a few scybalæ. Up to this time

Mr. Swan had been eating heartily, his appetite being unimpaired; I directed a reduction in the amount, and that the food should be of the most laxative nature.

December 5th, I gave croton oil in large doses, producing slight nausea, but no discharge. I introduced a large gum catheter ten inches into the bowel, and threw up about three pints of salts and senna; this remained some time, but brought nothing away with it. After this he could not bear an enema of more than half a pint, and this but for a few minutes. I went through the usual routine of purgatives, calomel, aloes, rhubarb, elaterium, scammony, gamboge, croton oil, &c., in different combinations; injections of all kinds, both warm and cold, were resorted to; galvanism was tried, but without avail. Thinking that there might possibly be spasmodic stricture, I gave antim. tart. for two days in full doses, which produced but little nausea after the first few doses, and accomplished nothing.

On the night of the 8th, I gave a grain of sulph. morphine, under which my patient slept well, and in the morning seemed much refreshed. During the whole of his sickness, his urinary secretion was copious, but high-colored. On the morning of the 9th I became convinced that there was an *organic* obstruction—and from the absence of vomiting, the distension of the colon, and the evident action of the upper bowel under the use of purgatives, I was satisfied that the trouble was in the lower part of the colon.

On the morning of the 10th, my patient was much worse; haggard in appearance; pulse 140; abdomen tympanitic and very much swollen, and suffering so from pain and distension, that he could not sleep at all, even under the free use of opium. I felt convinced that unless relief was afforded, he would die within twenty-four hours, and so told him, mentioning the operation and its chances. At 12, M. he consented, and at 2 P. M. I operated upon the descending colon, as directed by Amussat. I was assisted by Drs. Rauch, Webb, McCann, and Scarf; Drs. J. F. Henry, and Ransom also being present. The operation was attended with but little loss of blood; a large amount of fecal matter was discharged from the wound, and the patient expressed much relief. I dressed the wound by the interrupted suture, attaching the edges of the bowel to the integument; a free discharge was kept up all the evening, and his pulse fell to 120; the next morning he was entirely comfortable, pulse 110. December 13th, patient said he felt "first-rate;" about 2 P. M. I was sent for in haste, and found him almost in *articulo mortis* from hemorrhage of a venous nature; I opened the wound to the bottom, and found the bleeding proceeded from a small portion of the cellular tissue surrounding the kidney; the organ itself was not injured, but there appeared to be a congeries of little vessels in the cellular tissue, from which the blood poured as from a sponge. I applied ice, gave stimulants, and there was no return of the bleeding. I could not close the wound, and the discharge of fecal matter kept it in a condition unfavorable for healing.

Two days elapsed before he rallied from the hemorrhage, he then seemed to improve; his pulse fell to 80, and he felt that he was going to recover.

This state of things continued until Friday, the 19th, when he became much distressed by the attempted passage of scybalæ through the wound; some of these I cut to pieces and extracted, but as I would remove one, another would pass down, causing much pain, and producing a diarrhœa, with constant desire to have an operation both by the wound and the natural passage; through the latter, a little fluid bilious matter was discharged, being the first which had passed the anus for three weeks. This pain and diarrhœa continued, in spite of all I could do, through the night of the 19th, and on the morning of the 20th, being the tenth day after the operation, between eight and nine o'clock, he expired, apparently from exhaustion.

AUTOPSY, three hours after death. Present, Drs. J. F. Henry, Rauch, Webb, and McCann. The bowels healthy to the immediate vicinity of the wound, but containing large scybalous masses, from the size of a marble to that of a goose-egg, which were so hard as to be cut with difficulty, and almost all of them having, as a nucleus, portions of apple-parings, although the patient had not eaten an apple for two months before his death. The number of these scybalous masses was large, there being more than a gallon of them, and many had passed the wound at the time of the operation and daily afterwards; but there were some too large to pass, and seemed to be insoluble in the secretions of the bowel, or in the water which was injected through the wound to soften them; the largest mass was in the cœcum.

The inflammation about the wound was much less than I supposed it would be, extending but a few inches from the incision.

Fourteen inches below the opening, and ten from the anus, just below the sigmoid flexure, a stricture, embracing all the coats of the bowel, was found, which effected almost a complete closure of the tube, leaving a mere fissure, through which the flat end of a small scalpel handle could with difficulty be passed. A small ulcer appeared on the superior side of the stricture, and extended down into it for a couple of lines; the stricture was six lines long, and the part of the gut embraced in it, was perfectly callous, cutting like gristle; indeed, so firm and unyielding, that it is not likely that any mode of treatment would have proved effectual for its dilatation; so that had the patient survived the operation which was performed, he would have continued to suffer under the infliction of that disgusting alternative, an artificial anus.

I found in this case, by following the directions of Amussat, that the wound extended farther back than was necessary, leaving the bowel in the anterior portion of the cut, and injuring the lumbar muscles more than there is any necessity for, and causing the operator to endanger the kidney. If I had to operate again, I should commence the incision one inch farther forward than he directs, and shorten it by that much posteriorly.

Of course the operator should be governed by the case before him; but the modification suggested would, in my opinion, render the operation a much simpler one, in not requiring so deep a wound, and not subjecting the patient to the risk of hemorrhage, while it would place the outlet of the bowel in a much better position for dressing than when, as now, it is at the most elevated portion of the incision.

ART. III.—*On the Use of Quinoidine as a Substitute for Quinia in Miasmatic Fevers.* By B. F. GRAHAM, M.D., Wake Co., N. C.

IN the first issue of the "North American Med. Chir. Review," the subject of the "Economical Use of Quinia in Malarious Fevers," by O. C. Gibbs, M.D., is presented to the consideration of the medical profession. Looking, as he justly remarks, at the high price of the article, the probable failure, at no distant day, of the cinchona tree, and also the increasing consumption of quinia in other than miasmatic diseases,—should not these considerations alone stimulate the profession to put forth some exertion in search of a proper substitute?

Happily a most excellent substitute, as experience enables me to testify, is found in the concomitant chemical product, "Chinoidine or Quinoidine," for which, although we are dependent upon the same source as for quinia, yet, by its general substitution, particularly in malarious fevers, the consumption of the latter would be materially economized. Since the publication of a report on the use of quinoidine, by J. Da Costa, M.D., in the Medical Examiner for May, 1855, I have used this remedy in the above fevers, with a success beyond my most sanguine expectations.

Finding many physicians, some of whom have not read that or any other report on its use, and others who have neglected to improve the valuable hints therein contained, I am induced, after fairly testing the utility of the remedy, to urge its claims, and if I shall succeed in prompting any of my professional brethren to direct their attention to its efficacy, my object will have been accomplished.

In promptness, I consider the quinoidine fully equal to quinia, and in permanency of cure, far superior. In proof of its efficacy, I will simply remark, that even in quotidian intermittents, I have often exhibited the medicine with the happy effect of cutting short the disease, without the recurrence of a single paroxysm; and in several instances, after quinia, in large quantities, had been administered without the desired result, I have, by the use of quinoidine alone, succeeded in effecting a speedy and permanent cure. Nor do I now recollect a single instance in which, after its exhibition, a relapse occurred, whereas the experience of almost every practitioner, will but too amply corroborate my own in regard to the common occurrence of relapses after the use of quinia.

Besides its comparative cheapness, there are other considerations that should give quinoidine a precedence over sulphate of quinia. It fails to produce those unpleasant and sometimes deleterious effects, such as headache, tinnitus aurium, dimness of vision, &c., which so frequently attend the administration of the sulphate. Nor has the exhibition of the purified article, as prepared by Messrs. Powers and Weightman, ever been attended, in my experience, by the slightest nausea; but the unpurified, which is of the color and consistence of tar, not only excites nausea, but also active emesis, and if given in large doses, frequently repeated, may induce a dangerous hypercatharsis.

Quinoidine is also a good tonic, and in connection with iodine and ipecacuhana, an excellent alterative. But it is as an antiperiodic in malarious fevers, that I would more especially insist upon its claims, while I am disposed to believe, that after fairly testing the remedy, few physicians would be willing to lay it aside for the resumption of quinia.

I give it in pills of two grains each, every hour till the disease is arrested, and afterwards continue it for a few days, in the same doses, much less frequently repeated; the average quantity required for each patient being from thirty to forty grains.

I have also successfully administered the liquor pot. arsenitis, potassii iodidum, sodii chloridum, chloroform, &c., but do not think that any one of them is likely soon to become a permanent substitute for sulphate of quinia.

ART. IV.—*Extraction of a Piece of Lead-Pencil from the Bladder by a small Incision through the left side of the Perinæum.* By S. D. GROSS, M.D., Professor of Surgery in the Jefferson Medical College.

THE subject, Philip Deyman, a farmer, thirty-nine years of age, of Guelph Township, Wellington County, Canada West, had been troubled for some time with an obstruction to the free passage of his urine, arising, as he supposed, from "gravel." To "remove the gravel," as he expressed it, he was in the habit of introducing into his urethra a piece of common lead pencil, which enabled him to urinate with greater ease. A retention of urine having existed for upwards of twenty hours, on the 6th of February, 1857, he resorted to the same procedure, but the pencil escaped from his grasp, and was drawn into the bladder. In a few days it gave rise to severe pain, and a constant desire to micturate; the pain was very acute just after the act; and at no time could he retain his water longer than an hour. The other symptoms were, itching in the head of the penis; an increased discharge of mucus; slight scalding in passing his urine; and occasionally interruption of the stream. The patient reached Philadelphia on the 3d March, and presented himself to me the next day, when, by means of a sound, the foreign substance was readily detected. A cathartic was ordered in the evening, and on the following day, an attempt was made to extract the pencil through the urethra; but failing in this, I decided on the lateral operation of lithotomy. On Friday morning, March 6th, the patient being thoroughly under the influence of ether, the operation was performed in the usual manner, except that the incisions were very small. The pencil was found to be behind the pubic symphysis, and was removed without the slightest difficulty. Very little blood was lost; and a grain of morphia was administered soon after the operation. On the sixth day, the urine had ceased to flow from the wound, and up to the time of the patient's departure, it passed entirely through the urethra.

On the 13th of March, the patient had several chills, and the right testicle began to enlarge. These symptoms soon disappeared under the use of the antimonial and saline mixture, and of fomentations of opium and muriate of ammonia. These, with the exception of an occasional purgative, were the only medicines employed in the after-treatment. On the nineteenth day after the operation, Deyman left for home. The wound was nearly cicatrized, and all the urine came away through the natural passage. The vesical distress had subsided; and there was but little pain in urinating. The urine was sometimes high-colored, and contained a small quantity of sabulous matter. In all other respects the patient was entirely well.

The pencil, which was slit in half, the part containing the lead having gotten into the bladder, was two inches and five-eighths in length, and was conical at one extremity. It was coated with a deposit, which weighed about one drachm, and consisted of a small quantity of uric acid; the rest being triple phosphate.

I am indebted for full notes of this case to Dr. Henry Orton, of Canada West, and to my son, Dr. Samuel W. Gross, who both saw the patient frequently after the operation.

ART. V.—*Case of Scirrhus of the Liver in a Child three months old.* By SAMUEL W. GROSS, M.D., of Philadelphia.

THE subject, a colored boy, aged three months, for three weeks before death had suffered from vomiting, cough, and shortness of breath to such an extent, that its mother supposed the immediate cause of its decease was suffocation. Its appetite was unimpaired and the abdomen was in a swollen condition.

An autopsy was made eight hours after death by my father and myself. The peritoneum contained a small quantity of fluid, and evidences of recent inflammation existed in the lesser omentum; but none upon the parietal portion of the membrane immediately in contact with the scirrhous masses. The mesenteric ganglia were somewhat enlarged; but with the exception of the liver, the abdominal, as well as the thoracic viscera, were in a normal condition. A little serum was found in the pericardium.

I may remark that the child had double congenital scrotal hernia along with hydrocele, and that the inguinal rings were very patulous.

The liver was of the natural volume, of good color, and of a firm consistence. On the anterior margin of the left lobe were three scirrhous masses, each about one inch and three quarters in length, half an inch in thickness, and from half an inch to an inch and a half in width, being separated from each other by fissures in the hepatic structure. They were flattened, but projected somewhat above the surface of the liver; and had very much the appearance and consistence of fibro-cartilage, grating slightly under the knife, and being separated from the surrounding healthy tissue by a distinct irregular lunated line of demarcation, which was of a dark brownish-red color. Six other patches, varying in size from a shot to that of a three-cent piece, were situated upon the upper surface of this lobe, and were interspersed with minute white spots. Upon its under surface, at the middle of the longitudinal fissure, was a single conical mass, about the size of a small hazel-nut.

The anterior border of the right lobe was to some extent pervaded by small points, while its body was occupied by three tumors, of a spherical shape, and varying in size from a hemp-seed to that of a hazel-nut.

The gall-bladder contained about half a drachm of thin, greenish bile. Examined with the microscope, the scirrhous structure was found to be remarkably distinct; but no one who is familiar with this kind of deposit could have mistaken it by mere inspection, so well marked were its external characters.

ART. VI.—*Mortality of Philadelphia, for January, February, and March, 1857, collated from the Health Office Record.* By WILSON JEWELL, M.D.

DURING the first quarter of the present year, including a period from January 3d to March 28th, the deaths in our Consolidated City, recorded at the Health Office, have amounted to 3042.

This total, is an increase of 232, or nearly four per cent., over those for the first quarter of 1856.

Included in the above deaths are 430 from adventitious causes. Among these will be found 129 still-born children.

The excess of male deaths is equal to 4·84 per cent. Of the deaths under twenty, or among children, there were 1913; of these, 1039 were boys, and 874 girls, showing an excess of 8·62 per cent. among male children.

The deaths among children under five years of age, numbered 1433, equal to 49 per cent., or nearly one half of all the deaths for the quarter, exclusive of the still-born, which amounted to 129.

The first week in February records the highest number of deaths weekly, viz., 297; while the last week in March gives the lowest, viz., 201.

The deaths from zymotic diseases have been 754. In the month of January they were 345; in February 237, and in March only 172—showing a falling off of one half below those of January. This reduced mortality is owing in a great measure to the decline in the deaths from scarlet fever.

It will be noted, that nearly one half the deaths under this head, are registered from scarlet fever, viz., 425! nearly equal to the mortality for the previous quarter, which was 438. This fatal epidemic, which has been prevalent for the last nine months, is at present disappearing from our midst.

Measles, which contributes 53 to this class of deaths, is still prevalent and quite fatal. In connection with this disease, there has been in existence a form of eruption which resembles measles, but without catarrh, and with very little if any febrile reaction. It is of short duration, seldom lasting over four days, and the rose-colored eruption beginning to fade generally on the second day after its appearance. We have considered it as Roseola, while some have called it French measles (?), and others, *Rubeola sine Catarrho.* If it is, indeed, a mild variety of measles, it does not exempt the patient from an attack of the febrile form.

In three instances, we have known genuine measles to follow this eruption within one month, and in a number of families we have met with it, where we had attended the same children for measles within the last two years.

We have witnessed three cases of this roseola in adults, but in each they were unattended with active febrile symptoms, or the phenomena of ordinary catarrh.

Croup has been, as usual during the winter season, of very frequent occurrence. The deaths during the quarter amounted to 89. We have seen several cases of croup following closely upon an attack of measles.

Small-pox has been on the increase during the last three months. The deaths have amounted to 32; of this number, 23 were of children under five years of age,—in all probability, unprotected by vaccination. There are also recorded three deaths from varioloid, under two years of age (?).

Of the deaths under the head of uncertain or general seat, which amount to 396, we have to allude to the large number from dropsy, viz., 91! More than double those for the same quarter of 1856. Of these deaths, 38 were under ten years of age, and in all probability, a majority of them were the sequence of scarlet fever, and should properly be classified with that disease, or else recorded as "dropsy, the result of scarlet fever."

The diseases of the nervous system (the brain and spinal marrow), usually contribute a large proportion of the deaths. In this instance, they furnish 486 towards the total. Of this sum, 141 were from convulsions, the most of which deaths took place before the fifth year, viz., 124.

One hundred and eighty-eight (188) of these deaths are recorded from inflammation, congestion, and dropsy of the brain. A very large proportion of the deaths in this class, viz., 348, occurred in children under ten years of age.

The deaths under the head of "Organs of Respiration," are more numerous than those of any other class. They are set down at 764, or 26·22 per cent. of all the deaths exclusive of still-born.

Consumption of the lungs, in this class, furnishes 407 deaths, or nearly 14 per cent. of all the deaths for the quarter, exclusive of still-born.

Inflammation of the lungs, the next highest, contributed 175 deaths; of these, 105 had not reached their fifth year.

The deaths from the diseases of the organs of respiration, during this quarter, have increased 6·48 per cent. over those for the same quarter of 1856.

The diseases of the "Organs of Circulation" furnish 74 deaths during the quarter. Under the term, "Disease of the Heart," we find recorded 49 deaths, more than half of the whole number. The vagueness of this term, however, like many others we meet with in our bills of mortality, leave us in the dark, as to the precise character of the lesion of this organ, which the certificate of the medical attendant is expected to furnish.

The deaths enumerated under the head of "Digestive Organs," amount to 151; of these 70 were from inflammation of the stomach and bowels, and 23 from inflammation of the peritoneum. 22 of the latter were among females.

Among the deaths from diseases of the "Organs of Generation," we find 33 from puerperal-fever, and two from child-bed, making 35 deaths during the lying-in period. This is a greater mortality among women in the parturient state, than we have ever been called upon to record for a single quarter, since 1852.

TABLE No. 1.

Deaths for the First Quarter of the Year 1857, *classified.*

				Male.			Female.			
	Jan'y	Feb	Mar	J.	F.	M.	J.	F.	M.	Total.
1. *Endemic and Contagious Diseases.*										
Zymotic or Epidemic, ...	345	237	172	186	129	107	159	108	65	754
2. *Uncertain or General Seat.*										
Sporadic Diseases, ...	139	138	119	69	77	49	70	61	70	396
3. Nervous System, ...	174	166	146	95	96	79	79	70	67	486
4. Organs of Respiration, ...	266	241	257	139	119	129	127	122	128	764
5. " Circulation, ...	25	23	26	16	13	12	9	10	14	74
6. Digestive Organs, ...	45	53	53	23	28	21	22	25	32	151
7. Urinary "	7	5	2	5	5	2	2			14
8. Organs of Generation, ...	16	21	16				16	21	16	53
9. " Locomotion, ...	5	5	2	4	3		1	2	2	12
10. Integumentary System, ...	1						1			1
11. Old Age, ...	13	13	19	2	5	9	11	8	10	45
12. External Causes, ...	25	25	28	20	15	19	5	10	9	78
Still Born, ...	42	47	40	25	24	22	17	23	18	129
Unknown, ...	36	21	28	21	11	16	15	10	12	85
	1139	995	908	605	525	465	534	470	443	3042

TABLE No. 2.

1. *Endemic and Contagious Diseases—Zymotic or Epidemic.*

	Males.	Females.	Boys.	Girls.	Under 1 yr.	1 to 2.	2 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	80 to 90.	90 to 100.	100 to 110.	Total.
Cholera Infantum, .	2		2		2															2
Croup, ...	51	38	51	37	20	18	43	6	1			1								89
Diarrhœa, ...	5	7		3	2		1				2	1	1	1	2	1	1			12
Dysentery, ...	8	7	5	2	1	3		2		1	2	2	3	1						15
Erysipelas, ...	21	14	7	6	7	1	2		1	2	3	6	4	3	2	4				35
Fever, ...	1	2									2					1				3
" Bilious, . . .	1	1											1	1						2
" Continued, .	1	1		1					1		1									2
" Gastric, . .	2		2		1		1													2
" Intermittent, .	3		1				1						1			1				3
" Nervous, . .	1	2		1				1			1	1								3
" Remittent,. .	3	4	2	1	2		1						1	1	1	1				7
" Scarlet, . . .	230	195	228	190	36	80	191	91	15	2	5	2								425
" Typhoid, . .	26	16	12	5		1	8	5	1	2	10	5	3	3	3	1				42
" Typhus, . .	7	1	4	1	1		2		1	1	1		1			1				8
Hooping-Cough, . .	9	5	9	5	9	2	3													14
Measles, ...	31	22	31	22	15	17	19	1	1											53
Small-Pox, ...	16	16	11	13	11	7	4	1	1		5	2		1						32
Syphilis, ...	1		1		1															1
Varioloid, ...	3	1	3	1	2	1		1												4
	422	332	369	288	110	130	276	111	22	8	32	20	15	11	8	10	1			754

2. *Uncertain or General Seat—Sporadic Diseases.*

	Male.	Female.	Boys.	Girls.	Under 1 yr.	1 to 2.	2 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	80 to 90.	90 to 100.	100 to 110.	Total.
Abscess, ...	1	6									2		2	3						7
Anasarca, ...	1										1									1
Cancer, ...	9	18	1	1			1			1	1	3	6	8	2	3	2			27
Cyanosis, ...	6	2	6	2	6	1	1													8
Debility, ...	48	43	24	20	39	1	3			1		5	3	7	7	19	3	3		91
Disease of Leg, . . .		1		1				1												1
Throat, . .	1		1		1															1
Dropsy, ...	42	34	28	13	4	3	18	13	2	1	2	5	3	7	8	7	3			76
Fungus Hematodes, .	1	1										1	1							2
Gangrene, ...	1	1		1			1						1							2
Gout, ...	2																1	1		2
Hemorrhage, ...	5	8	1	3	1		1	2			1	3	1	4						13
Inanition, ...	9	14	7	11	16	2								2		3				23
Inflammation, ...	4	3	1	3	2			1		1	1	1	1							7
" Throat, .		2		2	2															2
Malformation, ...	1	1	1	1	2															2
Marasmus, ...	41	47	40	45	50	20	11	2	2			1				2				88
Mortification, ...		1									1									1
Pyæmia, ...	1												1							1
Scirrhus, ...		2										1		1						2
Scrofula, ...	13	10	12	10	13	2	3	2	1	1	1									23
Sore Throat, ...	1	1	1	1	1		1													2
Tabes Mesenterica, . .	5	2	5		2	1	1		1		2									7
Tumor, ...	1	2	1						1				1		1					3
Ulceration, ...		1		1		1														1
" Leg, . . .		1													1					1
" Throat, . .	2		2				2													2
	195	201	131	115	139	31	43	21	7	5	12	20	20	32	19	34	9	4		396

3. *Nervous Diseases.*

	Male.	Female.	Boys.	Girls.	Under 1 yr.	1 to 2.	2 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	80 to 90.	90 to 100.	100 to 110.	Total.
Apoplexy, ...	18	14	1	2	2		1				3	2	6	5	9	3	1			32
Coma, ...	1															1				1
Concussion of Brain, .	4		1				1					1	2							4
Congestion of Brain, .	36	23	16	18	16	5	5	6		2	2	8	5	6	3	1				59
Convulsions, ...	78	63	73	62	79	31	14	7	3	1	1		1	2	2					141
Cramp, ...	2	2	1	2	1	1				1	1									4
Disease of Brain, . .	19	14	13	12	12	6	2	5				4	2	1		1				33
Dropsy of Brain, . . .	36	22	36	21	20	21	15	1			1									58
Effusion on Brain, . .	17	13	13	11	9	5	6	4			1		1	2	1	1				30
Epilepsy, ...	6	9	3	5	4	1		1		2	1	2	2	2						15
Inflammation of Brain,	32	39	31	36	23	12	18	11	2	1	1		3							71
Mania, ...	1	2										2		1						3
Mania-a-Potu, . . .	8											2	3	2	1					8
Palsy, ...	8	13	1				1				2		1	2	1	11	3			21
Softening of Brain, . .	2	1	1			1							1		1					3
Tetanus, ...	1												1							1
Trismus, ...	1	1	1		1								1							2
	270	216	191	169	167	83	63	35	5	7	13	21	29	23	18	18	4			486

4. *Organs of Respiration.*

	Male.	Female.	Boys.	Girls.	Under 1 yr.	1 to 2.	2 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	80 to 90.	90 to 100.	100 to 110.	Total.
Asthma, ...	6	5	4		1	1	1	1				2		3	1	1				11
Congestion of Lungs, .	12	17	10	11	13	1	5	2			3	2	1		1	1				29
Consumption of Lungs,	198	209	33	47	9	11	10	4	7	39	125	89	51	33	21	6	2			407
Disease of Chest, . .	2	2	1	1	1		1					1			1					4
" Lungs, . .	4	14	2	6	4	2	1		1		1	1	3	2	1	1	1			18
Dropsy of Chest, . .	11	3	7	2			6	3			1		1		2		1			14
Effusion on Chest, . .	1		1						1											1
" Lungs, .		2											1		1					2
Hemr'ge from Lungs,	4	4	2	1	2					1	2	1			1		1			8
Inflam'n of Bronchi, .	45	27	37	24	32	13	14	2			1	2	4	2		1	1			72
" Chest, . .	1	2	1	1	1		1					1								3
" Larynx, .	4	6	3	5		5	1	1	1		1		1							10
" Lungs, .	94	81	63	56	36	34	35	6	1	7	6	15	9	13	5	6	2			175
" Pleura, .		1		1		1														1
" Tonsils, .	1	4	1	2	2			1				1				1				5
" Trachea, .	4		4			2	1	1												4
	387	377	169	157	101	70	76	21	11	47	140	115	71	53	34	17	8			764

5. *Organs of Circulation.*

	Males.	Females.	Boys.	Girls.	Und'r 1 yr.	1 to 2.	2 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	80 to 90.	90 to 100.	100 to 110.	Total.
Anæmia, ...	4	1	2	1	2		1					1			1					5
Aneurism, ...	1		1					1												1
" Aorta, ...	1														1					1
Angina Pectoris, . . .	1															1				1
Disease of Heart, . . .	26	23	11	9	3	1	4	4	6	2	5	5	7	4	6	1	1			49
Dropsy of Heart, . . .	1	1	1				1									1				2
Enlargement of Heart, .	5	5	1	3	1		2			1	1		1	4						10
Inflammation of " .	1	3									1		1	1		1				4
Softening of Heart, . .	1														1					1
	41	33	16	13	6	1	8	5	6	3	7	6	9	9	9	4	1			74

6. *Digestive Organs.*

	Male.	Female.	Boys.	Girls.	Under 1 yr.	1 to 2.	2 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	80 to 90.	90 to 100.	100 to 110.	Total.
Abscess of Liver, . . .	1		1						1											1
Cancer of Stomach, . .	1														1					1
Cancrum Oris, ...	3	5	3	5	1		6	1												8
Cirrhosis Liver, . . .	1														1					1
Colic, ...	2	1	1				1					1			1					3
Congestion of Liver, . .	2	1		1	1						1				1					3
Disease of Liver, . . .		3		2	1			1							1					3
" Stom. & Bow.,	4	1	2	1	1	1	1							1		1				5
Hem'age from Stomach,	2		1						1				1							2
Hernia, Strangulated, .	1										1									1
" Umbilical, . .		1														1				1
Inflamm'n of Liver, . .	2	2	1		1									1	1	1				4
Inflamm'n of Peritoneum,	1	22	1	2			1		1	1	9	5	3	1	2					23
" Stom. and Bow.,	37	33	22	16	13	5	9	7	3	1	8	6	5	9	3		1			70
Intussusception, . . .	2	1	2		2							1								3
Jaundice, ...	1	3	1	1	2								1	1						4
Perforation of Intestines,	1		1				1													1
Scirrhus of Liver, . .		1												1						1
" Stomach, .	3	1		1	1											2	1			4
Sore Mouth, ...		1		1	1															1
Teething, ...	6	1	6	1	3	2	2													7
Ulceration of Intestines,	2	1	1	1	1				1						1					3
Worms, ...		1		1		1														1
	72	79	43	33	28	9	21	9	7	2	19	13	10	14	12	5	2			151

7. *Urinary Organs.*

	Male.	Female.	Boys.	Girls.	Under 1 yr.	1 to 2.	2 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	80 to 90.	90 to 100.	100 to 110.	Total.
Albuminuria, ...	1										1									1
Diabetes, ...	3	1	1		1						1	1				1				4
Disease of Bladder, . .	1														1					1
" Kidneys, . .	2	1		1					1			1						1		3
Inflmm'n of Kidneys, . .	3		1					1			1			1						3
Rupture of Urethra, . .	1												1							1
Suppression of Urine, .	1																	1		1
	12	2	2	1	1			1	1		3	2	1	1	1	1		2		14

8. *Organs of Generation.*

	Male.	Female.	Boys.	Girls.	Under 1 yr.	1 to 2.	2 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	80 to 90.	90 to 100.	100 to 110.	Total.
Cancer of Uterus, . . .		3													2	1				3
Childbed, ...		2									2									2
Chlorosis, ...		1		1						1										1
Disease of Ovaries, . .		2									2									2
Disease of Uterus, . . .		2									1	1								2
Hem'age from Uterus, .		2									1	1								2
Inflamm'n of Uterus, . .		5									2	1	1	1						5
Phlegmasia Dolens, . .		1									1									1
Puerperal Convulsions, .		1									1									1
" Fever, . . .		33		6						6	18	8	1							33
Ulceration of Uterus, . .		1										1								1
		53		7						7	28	12	2	1	2	1				53

9. *Organs of Locomotion.*

	Male.	Female.	Boys.	Girls.	Under 1 yr.	1 to 2.	2 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	80 to 90.	90 to 100.	100 to 110.	Total.
Caries, ...	1	1		1			1					1								2
Disease of Hip, ...	1		1					1												1
Disease of Spine, . . .	2	1	2	1		1		1	1											3
Rheumatism, ...	3	3	1	2	1				1	1	1	1	1							6
	7	5	4	4	1	1	1	2	2	1	1	2	1							12

10. *Integumentary System.*

Purpura, ...		1		1				1												1

11. *Old Age.*

Old Age, ...	16	29													2	12	25	5	1	45

12. *External Causes.*

	Male.	Female.	Boys.	Girls.	Under 1 yr.	1 to 2.	2 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	80 to 90.	90 to 100.	100 to 110.	Total.
Asphyxia, ...	5	4	5	3	6		1		1		1									9
Burns, ...	8	6	4	1	1	1	3				4	3		1				1		14
Casualties, ...	16	5	2	3	3	1			1		4	5	2	2	1	2				21
Drowned, ...	3		1				1				1	1								3
Exhaustion, ...	3	1	2	1	2	1											1			4
Exposure, ...	2	2		1			1					1	1			1				4
Fracture, ...	2												2							2
" Pelvis, . . .	1											1								1
" Skull, . . .	3	1	2			1				1				1	1					4
Intemperance, ...	2	2									2		1	1						4
Suicide, ...	2	2									1	1	1		1					4
Suffocation, ...	3	1	3	1	3	1														4
Violence, ...	4										3			1						4
	54	24	19	10	15	5	6		2	1	16	12	7	6	3	3	1	1		78

	Male.	Female.	Boys.	Girls.	Under 1 yr.	1 to 2.	2 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	80 to 90.	90 to 100.	100 to 110.	Total.
Still Born, ...	71	58	71	58	129															129
Unknown, ...	48	37	24	18	34	1	6			1	9	6	9	8	9	2				85

TABLE No. 3.

Deaths for the First Quarter of 1857, *at fifteen distinct periods of life.*

Under 1 year, ...	602
1 to 2, ...	331
2 to 5, ...	500
5 to 10, ...	206
10 to 15, ...	63
15 to 20, ...	82
20 to 30, ...	280
30 to 40, ...	229
40 to 50, ...	174
50 to 60, ...	158
60 to 70, ...	117
70 to 80, ...	107
80 to 90, ...	51
90 to 100, ...	12
100 to 110, ...	1
	2,913
Still born, ...	129
Total, ...	3,042

Of the above deaths, 153 were from the Blockley Almshouse; 139 from the colored population; and 14 from the country, as follows:

	January.	February.	March.	Total.
Almshouse, ...	53	51	49	153
Blacks, ...	45	48	46	139
Country, ...	6	3	5	14
	104	102	100	306

TABLE No. 4.

The following table furnishes the number of deaths for each week during the quarter, together with the sexes, the adults, and children, with their sexes.

	Male.	Female.	Boys.	Girls.	Adults.	Children.	Total.	Monthly Totals.
1857. From Jan. 3d to 10th, . .	136	128	96	71	97	167	264	
" Jan. 10th to 17th, .	153	140	102	98	93	200	293	
" Jan. 17th to 24th, .	168	123	116	75	100	191	291	
" Jan. 24th to 31st, . .	148	143	95	85	111	180	291	1139
" Jan. 31st to Feb. 7th,	162	135	113	82	102	195	297	
" Feb. 7th to 14th, . .	114	120	77	77	80	154	234	
" Feb. 14th to 21st, . .	123	127	80	79	91	159	250	
" Feb. 21st to 28th, . .	126	88	77	56	81	133	214	995
" Feb. 28th to Mar. 7th,	120	100	75	57	88	132	220	
" Mar. 7th to 14th, . .	121	104	78	59	88	137	225	
" Mar. 14th to 21st, .	127	135	77	73	112	150	262	
" Mar. 21st to 28th, .	97	104	53	62	86	115	201	908
	1595	1447	1039	874	1129	1913	3042	3042

Bi-Monthly Periscope.

SURGERY.

1. INVERTED TOE-NAIL TREATED WITHOUT OPERATION. By *Robert Campbell*, M. D., Demonstrator of Anatomy in the Medical College of Georgia.—"Always dissatisfied with the various modifications of the operation that contemplates evulsion of the nail, which we have long deemed an unwarrantable measure of torture, in the treatment of this most *excruciating trifle*,—in the year 1851, having an opportunity of experimenting in a severe case of this affection, we endeavored to devise some expedient, which might answer the indication (of keeping the nail apart from the irritated flesh), by affecting the position and condition of the *flesh* itself, *by pressure*, as a substitute for the only plan we had ever seen proposed in the journals, or in the systematic works on surgery, whereby an operation was involved.

"From the entire success of this experiment, we have treated all the cases which have fallen in our way since, in the same manner—some of which were very unpromising in appearance—and have never had occasion to abandon it in any one case, or seek its modification. The condition of the part results most probably, from the use of too narrow a shoe, which contracts the toes into so small a compass, as necessarily to force the flesh at the margins of the great toe above the nail, from the lateral pressure of the inner side of the shoe, from within, and the other toes from without. The difficulty occurs most frequently, we believe, on the outer side of the great toe-nail, from the fact, that the second toe becomes depressed habitually, from this cause, and is impacted against the lower portion of that side of the great toe, and being pushed upward by the pressure of the ground from below, in walking, together with the lateral pressure, forces the flesh against the nail (which has not, necessarily, more than its normal breadth), until it becomes irritated, sore and swollen, the inflammation often resulting in a fungous growth, which is sometimes so sensitive as to disable the limb entirely.

"The indication is to adapt an apparatus of counter-pressure, at the same time training the second toe to such a position, that it will be available afterwards, as a natural, permanent compress, for the prevention of a repetition of such an obtrusion.

"This apparatus is formed of a bandage somewhat broader than the length of the nail—say ¾ths of an inch and 1½ yards long, having a roll at one end about ¼th of an inch thick, to be used as a compress, to which the last turn of the bandage is tacked, to prevent the disposition otherwise to unroll on traction. This compress is applied in the groove, between the flesh (which is generally much enlarged) and the nail. The margin of the compress, at which the last turn of the bandage is sewed, must present always upward and opposite to the direction in which the pressure is to be exerted—i. e., if the outer border of the great toe on the right side is affected, the seam should be directed upwards and towards the left side of the patient. Thus applied, the bandage will become somewhat wound around the outer side of the compress, which is to be pressed, at first, very gradually and tenderly, but somewhat forcibly, downwards and outwards, until secured in that position by several turns of the bandage around the great toe, carrying it first down, between that member and the second toe, and around several times. The great toe is then to be depressed and forced outwardly, under the second, which is placed upon the compress, and lightly bound in that position by a few turns of the bandage.

"The advantages of this treatment over the operation, will, no doubt be apparent to every one—as substituting a practice as shocking to the operator as agonizing to the subject; which considerations, in many instances, rendered the art a perfect nonentity in reference to these cases—deterring the surgeon, as well as the patient, from all attempts at relief, and entailing upon the latter months, perhaps years, of comparative indolence or of unmitigated suffering, and upon the former, the opprobrium of incompetency on account of the frightful nature of the only alternative.

"This bandage should be reapplied, at least as often as once a week. If the prominence of flesh, against which the compress is to rest, is very irritable, a layer of lint, anointed with simple cerate, should intervene. At the first impression of the compress on the sore flesh, the patient experiences some degree of pain or soreness; but the very prompt abatement of suffering following the relief of the inflamed tissues from the irritation of the sharp nail, and also the diminished turgescence of the part, induced by the uniform pressure of the compress and bandage, will prove an ample recompense. The comfort of the patient and celerity of recovery are much enhanced by keeping the limb in an elevated position. It is a matter of surprise, bordering upon astonishment, to see the great diminution of sensitiveness in the part, at each succeeding application of the apparatus. Six or eight weeks is time sufficient for relief, generally, or for such an improvement as to render it safe to intrust the case to the care of the patient.

"We have been thus minute and comprehensive in the above detail, in order that we might be comprehensible—hoping that the suggestions which, confiding in our experience, we have ventured to advance—though contrary to "written law," may not fall into disrepute through inefficiency of application."—*Southern Med. & Surg. Journal*, Feb. 1857.

2. LAGOPHTHALMOS, FROM PARALYSIS OF THE ORBICULARIS PALPEBRARUM. By *George C. Blackman*, M.D., Professor of Surgery, Medical College of Ohio.—"John Plunket, æt. 28, was admitted into the Commercial Hospital, Oct. 27, 1856. In March of the same year, he contracted two chancres on the glans penis, which were cauterized by a practitioner, and healed in the course of a fortnight. A bubo followed on the left side, which attained considerable size, but never suppurated. This, in a few weeks, disappeared, and he afterwards suffered from pains in his bones, and became covered with a pustular eruption. He had been of intemperate habits, and had had several attacks of delirium tremens, one of which occurred after contracting the syphilitic affection, but before he entered the hospital. During these attacks he suffered severely from pain in his head. At the time of his admission, he was unable to close his left eyelid, and the distortion of that side of the face left no doubt as to the existence of paralysis of the *portio dura* nerve. The deathlike appearance of the affected side contrasted strangely with the other when the latter was called into action, owing to the wrinkled forehead as far as the median line, and the dragging of the nose and mouth toward the unpalsied side. In his efforts to whistle, the orbicularis oris would contract on the right, but not at all on the left side, and in speaking, the cheek would 'flap to and fro,' from the paralysis of the buccinator muscle. This complication, so generally observed in these cases, is difficult of explanation, as the buccinator is supposed to derive its chief motor power from the trifacial nerve. In masticating his food, our patient was compelled to employ his fingers to prevent the accumulation of food between the teeth and the cheek. There was severe pain in the trunk of the *portio dura* just after it emerges from the stylomastoid foramen, and this was undoubtedly due, as well as the paralysis of the muscles of the face, to the pressure of an exostosis from the skull, just beneath the mastoid process. On first examination this was regarded as an indurated gland, but subsequent more careful investigation established the existence of a periosteal deposition and induration, or, an exostosis. It should be stated, that the sensibility of the cheek was slightly impaired.

"Before his admission he had been under various kinds of treatment. Mercury had been administered, and blisters had been applied behind the ear and upon the nape of the neck. The latter, the patient seemed to think, had but aggravated his sufferings. As he had recovered from the effects of his intemperance—as far as his general health was concerned,—I directed a cathartic, after the operation of which, he was to take pills of the protoiodide of mercury, one grain each, three times per day. These were given for several days, and then the iodide of potassium was substituted—ten grains three times a day. In the course of a week the dose was increased to fifteen grains three times a day. For something like a fortnight, but little impression seemed to be produced, and I determined, if the affection continued thus obstinate, to resort to Dieffenbach's operation of dividing the levator palpebræ. In the early part of December, however, the power of the orbicularis palpebrarum was decidedly increased, and the other symptoms of paralysis began to subside. About the 20th of the month, he could completely close the eyelids, and at the present time, January 18, but very slight deformity of the face remains. The exostosis or periosteal induration, has materially diminished, and the improvement of the patient has kept pace with this diminution.

"To those acquainted with the experiments of Sir Chas. Bell upon the *portio dura* nerve, in 1821, and those repeated by Mr. Shaw, MM. Mayo, Eschricht, Magendie, and Conget, the above case cannot be devoid of interest. The coexistence of impaired sensibility on the same side of the face, may be regarded by some as an evidence that the trifacial nerve was also involved, and that the paralysis of the *portio dura* was dependent on intracranial disease. While it is universally admitted that the *portio dura* is the *general motor* nerve of the face, it is by no means established that it does not possess sensory endowments, or that the latter depend altogether upon anastomoses with other nerves, after its escape from the stylo-mastoid foramen. It is probable, however, that the *greater* part of its sensibility is derived from the branches which it receives from the trifacial; yet M. Sappey, in his *Traité d'Anatomie Descriptive*, states that it receives a small branch from the posterior surface of the spinal cord, from which sensitive portions of nerves take their origin, and that, with Bischoff, Bartold, Ch. Robin, and others, we must admit that the *portio dura* is also a nerve of sensation.

"Dr. J. H. Bennet, in his work on *Cancerous and Cancroid Growths*, relates (p. 83), a case in which a small indurated swelling, below the left ear, gave rise to paralysis of that side of the face, attended with lagophthalmos. This tumor proved to be cancroid affection of the parotid gland, which destroyed the patient.

"Professor Graham, of the Medical College of Ohio, informs us that he has seen a patient cured of a paralysis of the *portio dura*, by the extirpation of a morbid growth which pressed upon it, between the mastoid process and the ramus of the jaw. Mr. Mackenzie, in his Treatise on the Eye, remarks that the disease has been known to arise from the pressure of a lymphatic gland lying between the jaw and the mastoid process. But the case we have given in detail is the only one with which we are acquainted where the morbid growth producing the paralysis was of a syphilitic character. Vidal and other writers on syphilis, refer to cases of amaurosis and various cerebral affections due to this source, and to paralytic affections of the lower extremities dependent upon similar growths, from the spine encroaching upon the spinal cord, and cured by the iodide of potassium. In conclusion, we would refer those interested in the study of 'Bell's

Paralysis of the Face,' to Dr. Todd's 'Clinical Lectures on the Nervous System,' a work which, upon this subject, we believe to be unequalled in the English language.—*West. Lancet,* February, 1857.

3. SPINA BIFIDA—THREE CASES FROM ONE MOTHER. By *E. M. Pendleton,* M.D., of Sparta, Georgia.—"In a practice of twenty years, I have seen but four cases of that terrible congenital disease, or malformation, termed Spina Bifida. The first, was in consultation with Dr. Lynch, of Warren County, which terminated fatally, at several years of age. The sac, containing water and connected with the brain through the spinal column, was at the end of the os coccygis. The other three cases have occurred within the last five years, and singularly enough, were all the offsprings of the same mother, a lady of this county, of the first respectability. Her first child, a son, had a very small sac on the left side of the spinal column, in the lumbar region, which did not seem to connect specially with the spine, and but for the further developments of the case, would not have produced much apprehension. Hydrocephalic symptoms, however, supervened in a few months, the head became enlarged and the child had occasional spasms; it died in a short time.

"The second child was apparently healthy; but as the parents had removed from their former residence, I lost sight of the case, until summoned to attend it, in consultation with another physician. It labored under the effects of catarrh and dentition, the brain suffering greatly. It died in a few days after I saw it.

"In the third case, I attended the accouchement, and found, as soon as the child was born, that it presented symptoms of paralysis. Upon examination, the same fearful sac, at about the same point of the lumbar vertebræ, presented itself, only it was much larger than the other; the legs crossed, and were perfectly paralyzed. The head was larger than natural, and soon exhibited hydrocephalic symptoms. It lived several months, and cried nearly all the time of its waking existence.

"Several months since, I was summoned to the same lady in her fourth confinement. I went with fear and trembling, feeling a strange premonition that I would have the same difficulty to contend with as formerly. Anxiety and apprehension were depicted on the countenances of both parents, and I could but offer a silent prayer that this one might be well formed. But, alas! as the child presented itself to our vision the first time, we detected the same inability to move its lower extremities, the same malposition of the legs, and the same fearful fissure in the back, only larger, apparently, than either of the others. We turned away sickened at the sight. In other respects, the child seemed to be healthy and sprightly. It, too, soon followed its predecessors to the grave.

"What can be the cause of this singular concatenation of unfortunate births, from parents who are both well formed, vigorous, and healthy, in every possible respect? The father is of a bilious, lymphatic temperament; the mother, sanguineo-nervous—the parents of both still alive and healthy. This would seem to be one of the best crosses imaginable. The maternal grandmother, however, springs from a family of over sanguineous temperaments and scrofulous diatheses. They are very prone also to intermarriages. Her immediate offspring, however, are all healthly, and I cannot conceive that there exists any just cause of suspicion on this ground.

"The case is one of great interest to those who love to investigate the profound intricacies of the physiological and pathological relations of parents and offspring. We feel an especial interest in presenting these cases, hoping that such untoward effects may be traced to their legitimate causes, and some prophylaxis be instituted, that may arrest the calamity in future; if not in the case under consideration, at least in some which lie in the lap of the future."—*Southern Med. & Surg. Journal*, April, 1857.

4. REMOVAL OF TUMORS BY A NEW METHOD.—"Dr. Simpson, of Edinburgh, has been experimenting on the removal of tumors by a method novel in this country. He introduces a hollow acupuncture-needle, or very fine trocar, into their tissue, and injects a few drops of some irritant liquid—such as a solution of chloride of zinc, perchloride of iron, or creasote. The effect has been to destroy the vitality of the tumors so treated, and they have been separated by a process of enucleation. We have seen a somewhat similar plan adopted in Paris by M. Maisonneuve. He has slender stylets made of a paste composed of flour, water, and chloride of zinc. These are baked. A puncture is made in the tumor, the caustic style is inserted, broken off, and left. We saw several malignant tumors treated in this manner, and some cases in which a healthy granulating surface was left after the separation of tumors which had been destroyed in this manner."—*Times and Gazette, Feb.* 7, 1857.

5. NEW MODE OF EMPLOYING THE TAXIS IN HERNIA. *By B. G. Darley, M.D.*—"I have read in your last number a report of a lecture on the taxis in hernia by Mr. Skey. I am induced to send you a mode of manipulation which he has not mentioned, nor any one else that I am aware of, and which I found very successful in a case I was called to see some time since; it may be of use to him as well as to others. It was an inguinal hernia, in a young man, that had been strangulated for the greater part of a day; size not very large, but very tense, and hard, attended with the usual symptoms,—vomiting, confined bowels, &c. I tried the taxis, as it is called, but failed. I then made him bend both his knees, and took one under each arm and with his head hanging, I gave a good shaking as long I could hold him, telling him to press up the tumor as well as he could himself. On letting him down, I found the tumor not so low down in the scrotum as it was; it was soft, and holding it in my hand for a minute it went up. The *rationale* of this proceeding is very easily explained, and is on the same principle which succeeded in dislodging the half-sovereign from the larynx of Mr. Brunel, when the surgeons were about to open his wind-pipe."—*Dublin Med. Press, Feb.* 4, 1857.

6. IODINE INJECTIONS IN THE TREATMENT OF OVARIAN DROPSY.—In a late discussion before the Medico-Chirurgical Society of Edinburgh, Professor Simpson stated, that "He had now employed these injections in twenty or thirty cases, with varying results. In the first operation, the first, he supposed, in which it had been used in Great Britain, the tumor is still present, but never has again increased to any great size. Sometimes the injection in his hands had proved quite successful. Lately, he saw two patients on whom he had operated three years ago. In one of these cases, a young person of twenty or twenty-two, who had been once or twice tapped before, the dropsical tumor was of very great

size, and the patient's health and strength were rapidly breaking down when the iodine injection was had recourse to. There has been no return of the dropsy, and the patient is now quite well and strong. He lately saw an elderly patient, upon whom he had operated about the same time, with a similar successful and apparently permanent result. In other cases, the iodine injection had been completely or partially successful—partially in several, inasmuch as it had obliterated the largest cyst in the multilocular tumor, but had not prevented the remaining smaller cysts from growing and developing. In some, on the other hand, it had so far entirely failed, that the cyst, operated on and injected, had again refilled; but, perhaps, as a general rule, not so rapidly as when no injection was used. The failures were, in special instances, perhaps traceable to the iodine being too much diluted by the fluid left in the cyst; to the quantity of iodine used being too small, or too weak; to care not being taken to bring it in contact with the whole interior of the cyst, and other possibly avoidable causes. No doubt it was a valuable means in some cases, especially where the dropsy was principally limited to one or two large cysts: and no doubt it would fail in others, especially where the tumor had several large cysts developing simultaneously. The iodine injection was seldom attended with much pain, or with any severe local or constitutional irritation. Out of the twenty or thirty cases in which he had injected ovarian cysts with iodine, in only one instance had death subsequently occurred, namely, in a patient to whom he was called by Dr. Monroe, of Dundee. The dropsical distension of the abdomen in this patient was, before tapping, greater, he believed, than he had ever before witnessed, and the iodine injection was used at the first tapping. Was the fatal result attributable to the tapping or the injection? He had now used the iodine injection so often, without any marked local suffering or constitutional reaction, that he was inclined to doubt if the iodine were in any degree blamable; while he he had so frequently seen danger and death follow first tappings, and where nothing but tapping was used, that he believed the result was to be ascribed to the paracentesis, and not to the injection. Dr. Duncan spoke of tapping being said to be fatal in the proportion of 1 to 4. He had never seen such a high general mortality ascribed to ovarian paracentesis; but Mr. Southam had published a limited table of cases, in which the operation was fatal in first tappings, in the proportion, if he remembered aright, of 1 in 5. And when Dr. Duncan spoke of tapping being a safe operation, because it was occasionally repeated 40 or 50 times upon the same patient, he entirely forgot, he feared, the all-important fact, that the danger of ovarian tappings attached principally to the *first* operation, and comparatively little to the subsequent repetitions of the paracentesis. During the last few years, since using iodine injections, he had seen, in hospital and consultation practice, several patients die after ovarian tapping, in two or three of whom iodine was intended to be used, but was, for the sake of the treatment, for various causes, fortunately omitted. In one case, where the iodine apparatus went wrong when about to use it, he successfully adopted a plan of practice which he had suggested in writing, namely, he had established a fistulous opening between the secreting cavity of the cyst and the absorbing cavity of the peritoneum, by compressing and bursting from day to day, the ovarian collection through the trocar-wound in the walls of the ovarian cyst. A wound made by a four-sided trocar would be more easily changed into such a fistula than a wound with the usual triangular-shaped instrument. In the few cases of ovarian dropsy cured by nature and accident, the establishment of such a fistulous opening was the means employed. Other measures, he had reason to hope, might yet be happily devised for the treatment of this very grave disease, seeing the attention of the profession was so strongly called to it at present. As to the operation of complete extirpation, he still held the same views which he had expressed to the society several years ago, namely, that there were some cases of ovarian dropsy in which other milder measures having failed, as being inadmissible, ovariotomy was justifiable on the same principles and grounds as most of the other major operations in surgery for chronic incurable disease were justifiable."—*Edinburgh Med. Journal*, Feb. 1857.

7. SENILE GANGRENE. At a late meeting of the New York Pathological Society, "Dr. Markoe exhibited the aorta, common iliac, femoral, and popliteal arteries, taken from a patient dying from senile gangrene. The patient was an old man, between 60 and 70 years of age; while at sea, a passenger stepped on his great toe, on which he had long had a bunion; inflammation followed, and the surgeon on shipboard applied some nitrate of silver, which seemed to aggravate the symptoms, and shortly after a sloughy appearance took place round the original bruise. Dry gangrene spread gradually from this point on to the great toe, reaching to its base and gradually involving more or less of the smaller toes, spreading up half-way along the dorsal surface of the metatarsus. This was accompanied by a good deal of irritative fever. The gangrene spread slowly after his admission to the hospital, but three or four days before the operation it presented an appearanee which he has since regarded as of more significance than was at the time attributed to it. This appearance was that of a tongue or peninsula of reddened and inflamed integument, running up on the inner aspect of the foot above the ankle, and gradually falling into mortification. This seemed more like the mode of progress which obtains in mortification from obstructed arteries. Dr. Markoe had never seen this mode of rapid irregular extension in ordinary senile gangrene from enfeebled capillaries. The operation was performed below the knee, and, contrary to our previous experience, the mortification attacked the stump, the irritative fever increased, and the patient died within a week after the operation. He had examined the case after death with a great deal of interest, and the specimens presented seem to explain the unfortunate rasult.

"*Autopsy.*—The heart is nearly normal, presenting only some slight atheromatous deposits around the valves. In the aorta are seen numerous patches of atheroma; some of the plates are calcified, others have disappeared, leaving a denuded surface. All the smaller arteries down to where the tibial was cut in the amputation are extensively calcified. This is still more marked on the tibials and radials, etc., some of which seem to be mere bony tubes or cords. Besides this calcification of the coats, however, there is observed all along the great vessels, and more noticeably in the smaller trunks, a puckering and irregular contraction of the coats of the vessels sufficient to diminish their calibre at different points. At the lower part of the femoral artery an annular contraction exists, so considerable, that the calibre of the tube is reduced to one-third of its proper dimensions. This seems to be due to a puckering-in of all the coats of the vessel, at the point of ligature of the popliteal; although the artery is extensively diseased, yet a clot has formed within, and everything about the ligature seems to promise a perfect and safe closure of the arteries. We have here, therefore, not only the enfeebled condition of the capillaries, which is the ordinary cause of senile gangrene, but we have also an obstructed condition of the trunks of the vessels, just such, in effect, as obtains when these trunks are obliterated by adhesive inflammation. This, as far as Dr. Markoe's experience went, was a rare combination, and determined, no doubt, the spreading mortification, and the fatal termination of the case. If we have nothing to deal with but the enfeebled capillaries of old age, by amputating higher up, nearer the centre of circulation, and therefore through stronger capillaries, we have no return of mortification in the stump, and, if other circumstances are favorable, the patient may do well. Every surgeon knows, on the other hand, the danger in amputating too soon in those cases, in which, in young people, gangrene is the result of arteritis with obstruction. Dr. Markoe believed that, as the pathological condition was so different in the two cases, a clinical distinction might be drawn; a distinction, if correctly drawn, of great practical importance, in reference to the question of amputation.

"Dr. McCready stated that he had met with a case where dry gangrene in three fingers was caused by a tumor pressing upon the subclavian, in a woman, 30 years of age. In another case of disease in the femoral and obliteration of the anterior tibial arteries, there was dry gangrene of the toe.

"In reply to a question from Dr. Clark, Dr. Markoe said, that he did not mean to draw a distinction between inflammation and obstruction of arteries, for that in their results, as far as producing gangrene was concerned, they were nearly identical. The distinction he was insisting upon, was one between gangrene produced by loss of power in the distant capillaries, as of the feet and hands of old people, and gangrene produced by obstruction of principal trunks, such as occurs in young persons from arteritis. In the affection of the capillaries, Dr. Markoe had never seen the disease spread beyond the ankle, while in obstructed arteries a whole limb often perishes, usually by successive attacks of gangrene. In the first case we may amputate safely; in the second, we operate with doubt, hesitation, and danger, because we do not know how high up the obstruction may be.

"Dr. E. R. Peaslee remarked, that he had never yet known of a case of gangrene in a young person, where it was not owing to some obstruction; but, on the other hand, it seemed to him that the treatment of gangrene in old persons, went to show that it also often depended upon obstruction in the larger arteries. Practically he thought it might be difficult to decide what was best to do, for if amputation be resorted to, gangrene is apt to set in.

"Dr. James R. Wood thought this to be a very interesting subject, especially in a medico-legal point of view. He stated that the fact was settled long ago, that disease of the capillaries of the extremities was a cause of gangrene in both young and old. Also, that gangrene was sometimes the result of obstruction. He thought that the diagnosis between these two forms ought to attract the attention of the society, and hoped that either the subject would be discussed at some future day, or be referred to a committee to report."—*N. Y. Journal of Medicine*, March, 1857.

PRACTICAL MEDICINE.

1. ON THE TREATMENT OF THE NIGHT SWEATS OF CONSUMPTION. By *E. J. Coxe*, M.D., Visiting Physician to Charity Hospital, New Orleans, La.—"In the latter stages of consumption, of the many unfavorable symptoms frequently coexisting, no one is productive of greater distress to the sufferer than the exhausting night sweats, the difficulty or impossibility of arresting which is recognized by almost all of our standard authorities. Depending, in great measure, upon excessive debility, the result of the peculiar depressing influence of the disease upon the more important organs of the body, our main resource is to remove this, by the employment of a nourishing diet, mineral and vegetable tonics, and those external applications recommended by all practical writers.

"In directing attention to the employment and real value of certain remedies, which for some time I have used with marked effect in controlling and removing this most unpleasant symptom, it is proper to state, that in the wards of the Charity Hospital under my charge, as also in private practice, I have, during the past eighteen months, had opportunities of testing their success. Inasmuch as previously to employing them, all the usual remedies had been tried without permanent success, and as experience in a sufficient number of cases now authorizes a positive opinion, I cannot but regard it a duty to promulgate a knowledge of the fact.

"The remedies generally employed for the purpose of alleviating night sweats in consumption are the following: Small doses of opium, as found in Dover's powder, or compound kino powder; gallic or tannic acid, alone, or conjoined with morphia; sulphuric acid, as commonly used in elixir of vitriol, which last has been commended by the late Dr. Morton, used with sage tea, in the dose of a wine-glassful three times a day, or only at bed-time; a pill of sulphate of iron and alum, at bed-time, or more frequently during the day; a cold infusion of wild cherry bark. Dr. Theophilus Thompson, of London, speaks in high terms of the efficacy of four grains each of oxide of zinc and extract of hyoscyamus or henbane, and remarks that no remedy which he had employed had exercised so uniformly favorable an effect in moderating the night perspirations. He says that he had occasionally substituted the sulphate of zinc, in doses of two grains, with advantage, but, generally speaking, with less efficiency. Dr. T. observes, 'I am particularly anxious to direct your attention to the valuable properties of zinc, because the preparations of this metal have been disparaged by some writers of authority.' Although I had read Dr. T.'s work on Consumption previously, the practical importance of the above escaped me, and it was not until some time afterward, in perusing Dr. Barlow's Practice of Medicine, and disappointed with the want of power of the usual remedies, fully tried, that my attention was fixed upon the following sentence. 'It is in this stage that the night sweats are most troublesome, and against them there is no remedy equal to the combination of zinc and hyoscyamus.' The following is his formula: ℞. Zinci sulph., gr. i; Hyoscyami ext., gr. iv, to be made into one pill, and to be taken every night at bed-time. I would remark, that while this combination has succeeded by itself in most of the cases in which it was used, in a reasonably short time, in preventng the accustomed night sweats; in others, with the desire to improve the formula, if possible, different articles were added, varying the proportion of the essentials, in order to allow the exhibition of several pills during the day.

"My rule at present is to give the formula of Dr. B. at bed-time, and, several times during the day, a pill, composed of different ingredients—retaining, however, in some cases, a small portion of the zinc and hyoscyamus. In one instance, of recent occurrence, although a fatal issue could not be averted, the night sweats, which had long been profuse, were completely arrested by the pill at night and three others during the day, for many weeks before death. The number of cases, in which the night sweats of confirmed consumption have been entirely removed in from three to six days, at times earlier, and in one instance in private practice about two weeks, have been about thirty. In these cases the physical signs were well marked, and closely observed by many judges."—*Boston Med. and Surg. Journ.*, April 9, 1857.

2. TREATMENT OF POISONING BY STRYCHNINE. By *Marshall Hall*, F.R.S., &c.—"Judging from many experiments, I believe that strychnine destroys life in *three* ways:

"1. By inducing *laryngismus* and apnœa (or asphyxia).

"2. By inducing exhaustion of the nervous power, the effect of spasm and pain; and

"3. By a secondary asphyxia.

"The *first* object in the treatment is, of course, to get rid of the poison. Emetics must be given. But if these fail, the hopeful remedy is, to place the patient *prone*, and in the interval between the spasms, to tickle the fauces with a feather or other object.

"The *second*—the important remedy, is—*tracheotomy*. In my experiments, I gave the same poisonous dose of the acetate of strychnine to *each of two* dogs, and peformed tracheotomy in *one;* and left them undisturbed for the night. The one in which tracheotomy was performed, *lived;* the other infallibly *died!* Tracheotomy disarms laryngismus of danger—of its apnœa.

"The *third* remedy is—the *Ready Method*, with two objects: the first, to administer respiration as the remedy for the *effect* of the laryngismus, &c., apnœa or the suspension of respiration; the second, adding tickling to the fauces, again, to empty the stomach; a third may be, even when all spasm has ceased, to *continue* the alternate pronation and rotation, that is—respiration,—in the hope that life may be continued until the poison may be eliminated from the system, as well as mechanically regurgitated from the stomach."—*London Lancet*, February 28, 1857.

3. MR. STARTIN'S METHOD FOR THE PREVENTION OF PITTING IN SMALL-POX.—"The plan consists in applying the acetum cantharidis (P.L.) or any vesicating fluid,* by means of a camel-hair brush, to the apex of each spot or pustule of the disease, on all the exposed surfaces of the body, until blistering is evidenced by the whiteness of the skin in the parts subjected to the application, when the fluid producing it is to be washed off with water or thin arrow-root gruel.

---

* It will be observed, that this practice of vesication is the opposite to that recommended by the writers advocating nitrate of silver, who desire to avoid the blistering process.

"The vesication for each pustule should not be larger than the eighth or sixth of an inch in diameter, leaving intact the boundaries of the inflammation, excepting where the malady has become confluent, when the entire surface so affected should be vesicated.

"With respect to the best period of the eruption of small-pox for making this application, although between the fourth and eighth days should be preferred, the vesication has seemed to me to have been efficacious whenever it has been practised before the slough has formed, evidenced by the secretion of pus, which slough is at once the cause of the pitting, and the peculiar characteristic of this formidable malady.

"The only after-treatment in these cases consists in puncturing the blisters with a needle, in keeping the affected skin clean by means of arrow-root or rice gruel (avoiding soap of every kind), and in bathing the eruption several times a day by the aid of soft sponge or linen wetted with the following lotion: ℞. Sodæ biboracis, ℈j; Ammoniæ sesquicarbonatis, ℈j; Acidi hydrocyanici diluti, ʒj; Glycerini destillati, ℥ss; Aquæ rosæ ad ℥viij. M. Ft. lotio.

"The pain attending the application of the vesicating fluid is very slight and transient, disappearing almost simultaneously with the ablutions recommended, nor does the blistering add much to the disfigurement, while it relieves the pyrexia and cerebral symptoms, should they be present. The *rationale* of the benefits arising from the method appears to me to be comprised in John Hunter's observation, that 'if you can succeed in changing the character of an inflammation, you will often succeed in curing a specific disease;' which he calls 'the mode of cure by an irritation different from the disease;'* for he holds elsewhere, that 'no one disease can have two distinct and different critical inflammations.'"—*Medical Times and Gazette*, February 21, 1857.

4. On the Medicinal Effects of Ammonia and its Preparations.—At a late meeting of the London Medical Society, *Dr. Ogier Ward* read the following paper on the therapeutical effects of ammonia:

"Ammonia has never been considered to be a normal constituent of the blood, as its presence had not been detected except after death in cases of typhus, cholera, melæna, and other diseases of a putrid character, until Dr. Richardson's recent discovery that healthy blood owes its fluidity to the presence of ammonia, which is given off during its coagulation, which process may be arrested, and the fibrine re-dissolved, by the restoration of the alkali. An interesting inquiry here suggests itself: How does the ammonia escape from the body during the coagulation of the blood, and how is it retained in those instances in which the blood remains fluid after death? Assuming the truth of Dr. Richardson's views, the author examined and compared the therapeutic effects of the various preparations of ammonia; and he has found that, whether applied externally or taken inwardly, they possess in common the property of dissolving the proteine elements of the blood, whether in the vessels or effused into the tissues; and thus confirm the experiments of Dr. Richardson. The similarity in the effect of ammoniacal medicines is owing to their ready decomposition, the ammonia being separated, and forming the chief curative agent, though it is aided by the other substances originally combined with it. Thus its stimulant and solvent action is similar in kind, if not in degree, when used either externally or inwardly in the form of gas, liquor ammonia, or combined with carbonic acid, &c. From the utility of these preparations in the treatment of venomous bites and stings, inflammatory swellings, diphtheritis, croup, &c., we may suppose that they will be equally efficacious in urticaria, erythema nodosum, and erysipelas, in which there is an effusion of the fibrinous elements of the blood. In these and other inflammatory diseases and conditions, it is probable that the ammonia is carried out of the system in the form of urea or lithate of ammonia contemporaneously with the increase of fibrine in the blood; and that the benefit of the salts of ammonia in such cases is owing to their preventing or removing the effusion of fibrine from the inflamed parts. In this way, although the primary action of ammonia is stimulant, its remote effects are sedative or debilitant, as it not only arrests inflammatory action, but, by its resolvent and secernent power, carries the products of inflammation out of the system, and hence its utility in all active febrile complaints. It is to this attenuating property that its use as an antidote to drunkenness and to the stupor of opium is to be ascribed. Its stimulant powers are of use in poisoning by hydrocyanic acid, in the cold stage of ague, and in the retrocession of gout, rheumatism, and the exanthemata, as well as in syncope, hysteria, epilepsy, and convulsions. The hydrochlorate, which is the least easily decomposed, is probably the most useful of the salts of ammonia, as it not only possesses the stimulant, resolvent, secernent properties of the others, but owing to its combinations with chlorine, is endued with tonic powers, by which its prolonged use, unlike that of the other preparations, is attended with invigorating effects both to mind and body; and thus it forms an excellent substitute for mercury in cases where this medicine is inadmissible from its tendency to produce cachexia."—*Lancet*, Feb. 4, 1857.

---

* Hunter on the Blood, vol. ii, page 131, et seq., vol. i, page 454.

5. Treatment of Apnœa (or Asphyxia). By *Marshall Hall, M.D.*, New Rules, or the "Ready Method."—*Lose not a moment of time;* treat the patient on the spot, *in the open air*, exposing the face and chest freely to the breeze, except in cold weather; then—

I. *To Excite Respiration.*

Place the patient gently, and for a moment, on the face, to allow any fluids to flow out of the mouth:

Then raise the patient into the sitting posture, and endeaver to *excite* respiration;

1. By irritating the nostrils by *snuff*, *hartshorn*, &c.
2. By irritating the fauces by a *feather*, &c.
3. By dashing *hot* and *cold* water *alternately* on the face and chest.

If these means fail—

II. *To Imitate Respiration.*

Replace the patient on his face, his arms under his forehead, and—

1. Turn the body gradually, but completely, on the *side*, and *a little more*, and then again on the face, alternately;
2. When replaced, apply pressure along the back and ribs, and then remove it, and proceed as before;

3. Let these measures be repeated gently, deliberately, but efficiently, and perseveringly, *sixteen* times in the minute *only.*

III. *Continuing* these measures, rub all the limbs upwards, making firm pressure, *energetically.*

Replace the wet clothes by such other covering, &c., as can be procured.

Omit the warm bath until respiration be re-established.

Here the one idea is, the *throat* being cleared, to *excite* or *induce* respiration.

But to these "*Rules,*" I must add a paragraph from the same pamphlet on the special subject of the apnœa (or asphyxia) of the still-born:

"In treating the still-born, the great object is, as usual, to *excite* respiration; this is most efficiently done by plunging it into (not a *warm,* but) a *hot* and *cold* bath alternately. This means of exciting respiration was first put to the test of experiment, at my suggestion, by my late deeply regretted friend, Mr. Henry Smith.

"The just temperatures of these baths have not yet been determined. I would suggest from 50° to 60° Fahr. for the cold, and from 98° to 102° for the hot bath. The immersion should be *momentary;* the alternation *quick.*"

Experiments innumerable have demonstrated that if the subject be laid *prone,* and pressure be made briskly on the back, there is good *ex*piration; and that if the pressure be removed, and the body be turned *on its side and a little more,* there is good *in*spiration; that if this pronation and pressure, and this removal of the pressure and rotation be instituted *alternately,* there is good *Respiration.* The measures, then, are the true and instant remedy for apnœa (or asphyxia).

The whole may be reduced to the space of a nutshell, and to the form of a *quasi* syllogism:

Pronation and Rotation induce ample respiration:

Respiration is *the* remedy for apnœa (or asphyxia):

Therefore—Pronation and Rotation are *the* remedies for apnœa (or asphyxia.)

But not a *moment,* far less "a few minutes," is to be lost; "cita mors venit, aut victoria læta." Our motto must be "*principiis* obsta;" or, in good old English, act wisely, "*instantly,*" "on the spot." There must be absolutely *no* delay; no removal, no warm-bath, no galvanism; no tardy and inculpatory use of a new mode of treatment, said to be on its *trial,* but already *proved* to be effectual by the profession. Nothing, in a word, short of the *instant* "Ready Method" *on the spot.* This is the only mode of doing justice to the important subject.

Being well imbued with this one idea, let any and every subsidiary measure, such as *excitants* of respiration, the douche of hot and cold water, excitation of the nostrils, the throat, the face, the general surface; but especially pressure applied with brisk movement of the limbs upwards, to *promote* the circulation and warmth, be superadded.

And let our proceedings be marked by fairness. Apnœa soon becomes asphyxia indeed; and it is still doubtful whether any case in which the heart has ceased to beat, and this occurs in a very "few minutes," has been restored.

This fact is indeed the great argument for the instant use of our best measures.

Perhaps the still-born infant presents us with the fairest and most frequent opportunities for the due administration of remedies and observations of their true effects. Already *fourteen* cases of success are recorded. Let us carefully avail ourselves of these opportunities.

It must be remembered that there are *three* stages of asphyxia: the first, that in which respiration may be *excited;* the second, that in which respiration cannot be excited, but may be beneficially *imitated;* these are both most appropriately designated *apnœa;* the third, true *asphyxia*, that in which not even induced respiration, or all that is comprised in the "Ready Method," should be expected to do any good. But in *all*, where there is a hope, this hope is realized by—*Pronation* and *Rotation*, with *Pressure* duly applied, and removed; but instituted *instantly*, and *on the spot.—Lancet*, Feb. 14, 1857.

6. Treatment of Hooping-Cough by Enemata of Assafœtida.—M. Ancelon, after passing in review, in the Annales de la Flandre, other modes of treating hooping-cough, on which occasion he greatly underrates the value of Belladonna, among the narcotics, indicates his decided preference for assafœtida given per anum. He declares it to be a reliable and an heroic remedy, in the second and third periods of the disease. Little can be expected from it in the first period. Much of its efficacy will depend on the dose and mode of administration. To infants eighteen months to two years old, three injections should be directed, each of them containing, in the smallest possible quantity of vehicle, fifteen grains of assafœtida and two drops of Sydenham's Liquid Laudanum. The first of these is to be administered in the evening; the second on the following morning; and the third in the evening, from twelve to fifteen hours after the second enema. M. Ancelon believes that in the second period the disease can be at once and entirely arrested. The third period presents greater difficulties and requires longer persistence in the use of the remedy, which must be continued twelve to fifteen days consecutively, while we associate with it as adjuvant, frictions on the skin with dry flannel or that which has imbibed oil of turpentine. M. Ancelon directs attention to the fact of which he has satisfied himself, that neither opium nor assafœtida, when given separately, produce any decided effect. Having had, as he believed, a certain remedy at hand, he was not disposed to make trials of sulphuric acid or of alum.

[Assafœtida has long been a familiar remedy in this country, in hooping-cough, at least as far as the teachings and writings of Dr. Chapman extended. With him this medicine was a favorite in this disease, and especially in combination with one of the alkalies; but although no stranger to its use as an enema, he did not so formally and emphatically recommend it in this way as is now done by M. Anceldon.

Some salutary hints are furnished by this writer in the impromptu treatment of two infants in violent paroxysms of hooping-cough. The first was six months old, and when visited it was in a room heated to an extreme degree, and a prey to an epileptiform fit of coughing. Snatching it up instinctively in his arms, M. Ancelon took it to the window, which he opened; the season, that of winter, was remarkable for its coldness, and he exposed the little being to the air of a temperature of sixteen degrees below freezing-point. A deep inspiration and some easy coughing soon indicated a cessation of the fit. On the second occasion, the same good result was obtained by dashing cold water on the face of the little sufferer. These, the author judiciously adds, are extreme palliatives, which give time for recourse to regular treatment.]

PATHOLOGY.

INFLUENCE OF VARIATIONS OF ELECTRIC TENSION AS A CAUSE OF DISEASE. By *William Craig*, Surgeon, Ayr.—The monograph of Mr. Craig alluded to in the communication of Dr. Littell, as having been addressed to Dr. Hollingsworth, the late editor of the Examiner, was accompanied also by a letter from that gentleman, in which he expresses his surprise, "That men whose every-day pursuit is in the field of medical science, continually in contact with vital operations, and who are characterized as lovers of matter of fact, are content, in such an important matter as the remote cause of endemic and epidemic scourges which periodically devastate the human race, to believe in the agency of miasm, which miasm has never been identified, and appears to be a mere phantom of the brain. I am very glad," he continues, "to find that on your side of the Atlantic, other views begin to be entertained, and I am strongly under the conviction that the electric theory will yet be recognized as the true one, and that the researches in this direction will ultimately lead to the most satisfactory results. The American Continent is a much better field for making observations connected with endemic and epidemic diseases than the little island which constitutes Great Britain. Here we are confined to a small portion of the earth's surface, with a comparatively uniform temperature, and can see the operations of nature only in a very limited form. The small swamps in the fenny counties of England, exhibit the endemic phenomena in a very circumscribed degree, and on this account strike the mind of observers less forcibly than might be the case in situations where there is a large exposure of swamp under the influence of a nearly vertical sun."

His own paper, which was originally published in the London Medical Gazette for June, 1851, extends in double columns through some eighteen pages of that periodical, and its reprint entire would therefore occupy more space than we could conveniently spare; but inasmuch as it relates to a subject at once important, interesting, and novel, and is moreover strikingly confirmatory of the views put forth by Dr. Littell, we have thought that an abstract of it would not be unacceptable to the readers of the Review.

It is entitled, On the Influence of Variations of Electric Tension as a Cause of Disease; and sets out with the opinion that such variations on the various parts of the earth, act prejudicially on those animals which are placed on the portions of the earth thus affected. It is assumed as postulata, that heat and electricity are identical and convertible, that every atom of ponderable matter is surrounded by a little atmosphere of heat, and that it is through the agency of this element that attraction, and cohesion between the primary constituents of bodies are maintained. The gaseous bodies, whether in their aeriform state, as in the atmosphere, or solidified, as in vegetable combination, possess a great amount of latent heat, which is evolved in the new combination formed in the animal economy, and is the source of warmth to the system. The electricity so constantly and so liberally supplied by the various decomposing processes of respiration, digestion, and assimilation cannot, however, be intended merely for the support of animal temperature, but must have some other important work to perform, and what more likely than to minister to the vital operations in corporeal existence? The analogy, if not the identity of electricity and the nervous power is maintained, on the ground that the action of the one, can be successfully substituted for the other. Experiments showing, in the language of an able physiologist, "that a current of electricity sent along the referent nerves produces effects precisely analogous to those which are consequent on the transit of nervous forces. If it be sent along a motor nerve, muscular action is the result; along sensitive ones we effect the sensation peculiar to that nerve. Thus by means of a simple galvanic current passed through the eye, we produce the effect of light; through the auditory nerve, that of sound; and the nerves of smell and taste may be similarly acted upon." Dr. Wilson Philip has asserted that he can produce the secretion of the gastric juice by sending a current along the divided pneumogastrics.

This view is further confirmed by the structure and distribution of the nerves, as developed by the microscopical researches of MM. Prévost and Dumas, and the conviction is confidently expressed, not only that electricity evolved during respiration and assimilation is that which supplies nervous power, but that the structure of the nervous system favors the conclusion that the nervous forces are effected on the principle of a galvanic arrangement. Admitting the truth of this principle, it will follow that suspension or derangement of those provisions which nature has furnished for preserving a continual supply of vital electricity, cannot fail to affect the system prejudicially, in proportion to the amount of its abstraction.

The phenomena of disease prove that the first morbid impression is made upon the nervous system. The tumultuous form of nervous action which constitutes a rigor, conveys to those who are the subjects of it, the sensation as of a sudden abstraction of heat; coincident with which, there is a general derangement of the secretions, and a sudden failure of muscular power. Considering then that electricity and nervous force are identical, that the electricity evolved during the processes of respiration and assimilation is that which supplies the vital electricity to the nervous system, and that any cause which hinders the supply, or suddenly and to a great extent withdraws it after being supplied, must necessarily be mischievous, we have an intelligible combination of causes which will injuriously affect the system; without resorting to an imaginary miasm, which is not known as anything tangible, or appreciable by any of the senses, and which has eluded all search into its reality.

Taking cold will thus be an easily comprehensible idea. The escape of heat—that is the withdrawal of electricity from the body—is understood to be taking cold. The abstraction of vital electricity from a person whose nervous system has none to spare, will cause derangements that will be developed in some form of disease, the nervous currents in such circumstances, acting on a secreting gland, may be insufficient to elaborate from the blood those constituents which are required to form the various secretions; and in this manner the secretion may be imperfectly eliminated, the depuration of the blood incompletely effected; and the retention of those elements which ought to have been given off, will give rise to diseases which result from the vitiation of the fluids of the body.

Water in assuming the form of vapor absorbs a large quantity of electricity, and during this process portions of the earth, and the objects upon it are deprived of their due share. It is thus that injurious influences are exerted, especially on the predisposed, as are sufficient to cause epidemic and wide-spread disease.

In tropical countries the rain falls in greater quantity, and evaporation, which is effected by the radiation of solar heat, is consequently more active, carrying off the electrical fluid from the earth, and leaving it in a state of negative electricity So constantly is humidity associated with the existence of endemic and epidemic diseases, that their extent and virulence, as a general rule, will be in proportion to the amount and rapidity of evaporation in any given situation. The rainy season, or the period immediately after it, when radiation and evaporation are greatest, is consequently the most sickly in tropical climates. The insalubrity of places in hot countries, where the sea-coast and rivulets are covered with mangrove vegetation, has been particularly observed, and is attributed to the peculiar nature of those bushes in growth and decay, absorbing moisture and facilitating evaporation. A constant drain of the electric fluid is thus kept up; and the electrical conditions of the animals being always positive, they suffer loss from the tendency of this fluid to maintain an equilibrium. In open and inland countries, destitute of marshes and jungle, the humidity is only occasional and of short continuance, and the insalubrity, therefore, is casual and temporary. The unhealthfulness of marshes is in proportion to the warmth of their position, and the consequent evaporation. On this principle it ought to follow that ague and other diseases which occur near marshes, should be mild or severe, just in proportion to the amount of evaporation. When the water scarcely covers the earth, the soil and plants become much more heated; and radiation and evaporation are consequently greater than when the ground is entirely overflown.

There might be cited from many writers on pestilential diseases in tropical climates, examples of wide-spread deadly disease, and at the same time an absence of every other apparent instrumentality. There was no vegetable or animal decomposition, or any other source of insalubrious effluvia, on mere sandy plains, but the speedy evaporation of the recently fallen rains, and the presence of a severe pestilential scourge.

Besides the effect of evaporation, there may be some occult influence in operation on the mineral strata that constitute the crust of the earth, of good-conducting power, which may disturb the regularity of the distribution, and unsettle the equilibrium of the electric fluid, withdrawing it probably into more central regions, and leaving the surface in a highly negative condition. In this way may be produced those occasional and epidemic attacks of pestilential disease, which cannot be attributed even to the existence of those circumstances which are generally looked upon as remote causes. That this is not mere hypothesis, is proved by the observations of M. Andrand, during the prevalence of cholera in Paris in 1849. They were made with a very powerful machine; and in a communication to the French Academy, dated on the 10th of July, of that year, he says: "I have remarked that since the invasion of cholera, I have not been able to produce, on any occasion, the same effect. Before its appearance, in ordinary weather, after two or three turns of the wheel, brilliant sparks of fire, of six centimetres in length, were given out. During the months of April and May, the sparks obtained, by great trouble, have never exceeded two or three centimetres, and their variations accorded very nearly with the variations of cholera.

"This was already for me a strong presumption that I was on the trace of the important fact I was endeavoring to find. Nevertheless, I was not quite convinced; because one might attribute the fact to the moisture that was in the air, or to the irregularities of the electric machine. Thus I waited with patience the arrival of fine weather, and heat, to continue my observations with more certainty. At last fine weather; and, to my astonishment, the machine, frequently consulted, far from showing, as it ought to have done, an augmentation of electricity, has given signs less and less sensible, to such a degree, that during the days of the 4th, 5th, and 6th of June, it was impossible to obtain anything but slight cracklings without sparks. On the 7th of June the machine remained quite dumb. This new decrease of the electric fluid has perfectly accorded with the renewed violence of the cholera, as is only too well known. For my own part, I was not more alarmed than astonished; my conviction was complete. At last, on the morning of the 8th, some feeble sparks reappeared, and from that hour the intensity decreased. Towards evening, a storm announced, at Paris, that the electricity had re-entered its domain; to my eyes, it was the cholera that disappeared with the cause which produced it. The next day I continued my observations; the machine, at the least touch, rendered with facility some lively sparks."

Experiments, with the same result, were carefully made in Glasgow, during the winter of 1849, when that city suffered from a similar visitation; and these facts, Mr. Craig regards as very conclusive in favor of the theory which he advocates. They distinctly indicate that the electric condition of the mineral strata and superincumbent mineral debris on which Paris and Glasgow rest, were, at the period when cholera raged, in a negative or low state of electric tension.

Besides these particular and occasional influences which operate on a large scale to produce epidemic and severe pestilential diseases, the occurrence of special and individual cases may be accounted for on the same principle. A person in impaired health, or declining years, is exposed to a shower of rain, and sits inactive until his clothes dry upon him. With just sufficient elimination of vital electricity to supply nervous currents, and none to spare in radiation to convert the water in his clothes to vapor, every particle of heat thus abstracted will be injurious. Similar exposure in a more vigorous state of health after severe exhaustion, would be followed by the same consequences, especially if the individual, in a state of perspiration, should imprudently sit or lie upon the ground—the greater conducting power of which would rapidly convey the electricity from the system.

The external covering provided for preserving the warmth of the inferior animals, gives further countenance to this theory. The hair, skin, and adipose tissue of quadrupeds, and the feathers which adorn and protect the fowls, are all good non-conductors of electricity. Man, less carefully guarded by nature, is endowed with faculties which teach him to protect himself; and non-conducting materials, as wool, hair, silk, &c., have always been selected as a defence from cold, apart from all philosophical considerations. The barbarous inhabitants of the torrid zone,—who can endure no other covering, besmear themselves with oil or grease for the same reason. During the prevalence of a very fatal fever at Bombay, it was observed that the natives employed in an oil establishment, whose bodies were always thus repulsively coated, continued in perfect health, though hundreds not so protected were dying all around them.

In tropical regions, more especially, vessels at sea are often attacked with severe and dangerous disease; and as this evidently cannot proceed from miasms or emanations from the soil, its origin must be sought for in some circumstances connected with the ship itself. The wood of which it is composed, is a good non-conductor, and the crew are thereby nearly insulated. But evaporation from frequent washings of the deck, or dampness from leakage or other cause, by which electricity is withdrawn from the system, furnishes a ready solution of the problem. Ships have suffered severely from yellow fever, while the decks were deluged with water several times a day, whereas others in which attention was given to keep everything dry, have been comparatively healthy.

The magnetic hills of the southern peninsula of India, especially those of Tavachymalle, are mentioned as a remarkable example of the irregularity and inequality of electric tension. There is nothing in their appearance to account for their unhealthfulness, and the cause can only be found in the character of the soil. This consists in a large proportion of ferruginous hornblende, which becomes highly magnetic; and it is supposed that the diminished amount of latent electricity in the disintegrated rocks, gives them a capacity of absorbing it from every object which comes in contact with them; and hence their insalubrity.

After some practical observations respecting clothing, the construction of houses, the selection of sites for building, &c., the bearing of the theory on the subject of contagion is next adverted to; and while the injurious effects of the concentrated emanations from the bodies of patients laboring under fever, are not denied, the belief is expressed that they are less influential than is commonly imagined, and that the diseases supposed to be produced by them, are more usually dependent on the altered electric relations of the body.

Vegetable life is maintained on the same principle as animal life, but in a less vigorous and more modified form; and the diseases which appear in this portion of organized structures, are produced in a somewhat similar manner. There is this difference, however, in the case of vegetable life, that free electricity is indispensable to its existence; whilst animal life would be supported quite independently of it.

We cannot follow Mr. Craig in all his reasonings and illustrations,—interesting and ingenious as they are. They strongly corroborate in many particulars the views set forth in the kindred essay of Dr. Littell; and the double witness thus borne by two separate observers, certainly strengthens its claim to the attentive consideration of the profession. We subjoin the recapitulation with which the pamphlet concludes.

"1st. That heat and electricity are identical, as the one can be converted into the other.

"2d. That a large volume of electricity surrounds every primary constituent of matter, especially that form of matter which constitutes the gaseous bodies.

"3d. That animal heat is supported by the electricity liberated from the primary constituents of matter during the processes of respiration, digestion, and assimilation.

"4th. That electricity is evolved during these processes on the same principle as that which is evolved during the action of a galvanic arrangement.

"5th. That electricity and nervous power are analogous, if not identical; as the action of the one can be successfully substituted for the other.

"6th. That the majority of diseases are caused either by the sudden abstraction, or slow subduction of electricity from the body.

"7th. That a low state of electric tension on the surface of the earth, produced either by the operation of evaporation, or some occult movement in the great internal currents of the earth, is the remote cause of epidemic and pestilential diseases.

"8th. That occasional and ordinary diseases are produced by the sudden abstraction or slow subduction of electricity from the body, or its undue elimination during the vital processes.

"9th. That since electricity is so essential to the integrity of the vital operations, it is indispensable that measures be taken to promote its evolution and prevent over-radiation.

"10th. That electricity is the source of vitality in vegetable life.

"11th. That electricity is attracted by the fibres of the roots of plants; and by the instrumentality of the electric fluid does the plant extract its constituents from the soil.

"12th. That vegetables of rapid growth require a large supply of electricity to secure their perfection and completion; and the potato is a plant of this kind.

"13th. That the disease in the potato was produced by want of nutrition.

"14th. That the want of nutrition arose from defective electric agency.

"15th. That the cause of the deficiency of this agency, was those abstracting agencies which produced low tension of electricity."

THERAPEUTICS AND MATERIA MEDICA.

1. STRYCHNIA: ITS USES AND ABUSES.—"This powerful alkali has figured very prominently of late before the public; and has, in certain instances, been handled, medically, in a manner somewhat remarkable. It is certainly not from any lack of caution as to its use by writers upon Pharmacy and Therapeutics that its powers have been at times very strikingly and dangerously manifested; but it is rather owing to its reckless employment, or to an over-zeal in eliciting its effects, that accidents under medical management have happened. Those in the habit of prescribing it, if well instructed, know that it is second only to prussic acid in energy, when given in sufficient quantity to affect the system as a poison. A girl, 13 years old, died in about one hour from taking, by mistake, three-fourths of a grain divided into three pills; and it has even been asserted that merely inhaling a little of it has proved fatal. Moreover, administered remedially, it sometimes has had an evidently cumulative action, and its effects are

very likely to break out suddenly and uncontrollably, unless the greatest care is taken not to give too large doses, continuously. Yet there are instances where, from having long given it ineffectually, the practitioner has become impatient and added, very slightly it may be, to the usual dose, with the result of throwing his patient into strong convulsions. At other times the increase of the dose has even been more rash. Certainly this is an *abuse* of strychnia.

"We have lately heard of employing strychnia in some cases of *insanity.* We do not deny that there may be instances where it is demanded—as perhaps in certain concomitant paralytic states; but we are not cognizant of any special action that is predicated of this medicine likely to benefit the mental aberration. In a case of furious mania recently for a short time under our observation, we learned that *strychnia* had been administered on the outbreak of the affection. We are aware that it has been recommended in certain cases of maniacal aberration—but, as we suppose, in such as exhibited the moping melancholy form, and in hypochondriacal states. We fail to see the indication for its employment in violent, active mania, in young, vigorous persons. If we mistake not, there have lately been reports of similar treatment in analogous cases; if our distrust be only *ignorance*, we beg to be enlightened upon the point. Unless we are thus informed, we put this down as another abuse of strychnia.

"It is needless to refer to the frightful and cold-blooded murders, the detailed circumstances of which have made communities tremble. In these cases, the abuses of strychnia has had its *uses*, in that it has given to the world the elaborate chemical reports and investigations required by the legal necessities of the case. These will stand as invaluable evidence, and will be always looked upon as mines of information. In connection with this part of our subject, we consider it an *abuse* of strychnia, as of *any* subtle and potent poison, to have it so easily procured. Druggists should not be allowed to vend this medicine, any more than arsenic, opium, prussic acid, &c., to all applicants indiscriminately. Might not much of this abuse be done away by refusing the sale to all who do not present a physician's prescription or order? We are aware that much has been written and said upon this point, and also that nothing, of consequence, has been done. Often these deadly articles are as heedlessly sold as the most simple remedies. The small pecuniary gain to the apothecary, levies a large debt of responsibility against him.

"The legitimate *uses* of strychnia are well known. A powerful excitant of the nervous system, without any specific action on the brain, it has been long acknowledged to be a very valuable remedy in certain paralytic conditions. Combined in minute doses with purgatives, it hastens and increases their action; and it has thus been advantageously employed in some cases of amenorrhœa, or of suspended menstruation. We can testify to good service done by it in this way. As a tonic, *brucia*, the other component alkaloid of nux vomica, has been found perhaps more useful than strychnia. The latter is often prescribed in dyspeptic states, such as are accompanied by pyrosis and gastrodynia. Testimony is strongly favorable to its curative effects in spasmodic asthma. Externally, its employment for amaurotic troubles has been extensive.

"To recur once more to the abuses of strychnia, or, which amounts to the same thing, of the nux vomica, we cannot refrain from alluding to one which, in view of the strength and unmanageable nature of the agent, should be represented to the too credulous public in the way of a caution. There are those who, by the necessity of their position and avocations, cannot have that knowledge of it, and familiarity with this and other giants of the Materia Medica, which fit them for advising or regulating their use. Still, very many, in every community, are willing to take from such unskilled persons, compounds containing unknown amounts of strychnia, &c. &c. Thus we have *soidisant* or retired clergymen advertising that they will furnish a prescription for a preparation containing the active principle of St. Ignatius's bean, and the direction for using the same. All such tamperers with human strength and life are accountable to a higher tribunal than any earthly one, and those who aid and abet them must bear them company thither. It being quite sure that the adoption of these quack remedies by the people, only brings the honest physician more patients, we shall not be accused of covetousness in protesting against them. We do not aspire to coerce people, even by argument and the exposition of the bold and unwarrantable assumption that seeks to medicate—or rather to poison them—they are free agents, but certainly in no other affairs do they act so inadvisedly or expose precious interests so recklessly as in the care (as they understand it) of their health.

"The proper uses of strychnia, as of all medicinal agents, are only thoroughly known by the educated physician. Why does any one desire—or dare—having the manifest peril in view which its improper employment implies—to intrust its administration to the unfamiliar—the adventurer—or still worse, if possible, to their own judgment?

"And we commend to legislative consideration the dangers constantly attendant upon the unrestricted sale of medicinal articles, a fractional part of a grain of which sometimes takes life more quickly than the knife or the bullet. The facility of procuring such materials arms the unprofessional murderer quite as surely, if less covertly, than it does a PALMER."—*Boston Med. and Surg. Journ.* Feb. 26, 1857.

2. ARSENICAL POISONING.—"Dr. Hinds, of Birmingham, has lately called attention to a method of accidental arsenical poison, which should be generally known, and from which he was himself a sufferer. He chanced to select, for the adornment of his study, a particularly bright-tinted wall-paper, the pattern of which was confined to two shades of green. About two days after it had been applied, he first used the room in the evening, sitting there, and reading by a gas-light. Whilst thus engaged, he was seized with a severe depression, nausea, abdominal pain, and prostration. The same chain of symptoms ensued on every subsequent evening when he occupied the room. This lead to an inquiry into the cause. He scraped off a little of the bright coloring-matter from his pretty green paper, and, by sublimation, produced abundant crystals of arsenious acid. The paper was colored with arsenite of copper (Scheele's green). The use of this pigment to color wall-papers has already proved injurious in previous cases. In one, a child sucked some strips of paper thus colored, and narrowly escaped with life. (Ed. *Monthly Journal,* 1851.) Dr. Hinds remarks, that the presence of the

arsenical pigment may be recognized by its brilliant and beautiful hue, and by a little running of the color at the edges of the pattern, as though it did not take freely to the paper."—*Lancet*, Feb. 21, 1857.

3. ABSORPTION OF MEDICINAL SUBSTANCES INTRODUCED AS ENEMATA INTO THE LARGE INTESTINE.—M. Briquet read a memoir on this subject, before the Academy of Medicine, on the 30th of December last, principally in reference to quinia and its salts. The author draws the following conclusions:

"1. The fluid of which the enemata consists may readily enough be carried as far as the cœcum, and consequently be applied to an extensive absorbent surface.

"2. The mucous membrane of the large intestine, and the liquids which bathe its surface, exert no chemical influence over the substances introduced into this cavity, in which nothing is absorbed but what was previously in solution.

"3. When we administer by injection, per anum, salts of quinine, in solution, in a dose less than fifteen grains, a little more than a third of this quantity has disappeared, and has consequently been absorbed.

"4. When doses larger than fifteen grains are administered, they are badly received, and not more than a fifth, or even a sixth of the quantity is absorbed.

"5. At whatever dose we give the sulphate of quinine [by injection?] cerebral symptoms are, in common, produced only very slowly, and in minor degree.

"6. No traces of absorption are perceived before an hour has elapsed after the administration of the enema, and at this time but an inconsiderable quantity has been thus disposed of.

"7. The duration of the absorbing process is, in general, rather short, and seldom extends beyond two or three days at most.

"8. The absorption of the alkaloids of cinchona is not sensibly affected by various degrees of dilution, within, be it understood, certain limits, by the greater or less viscosity of the liquid, nor, finally, by the addition of the salts of morphia.

"9. Young people absorb better than adults; old persons of either sex absorb very imperfectly.

"10. The alkaloids of cinchona, administered by enema, in doses less than fifteen grains, may produce by this means all the good effects to be expected from the alkaloids given in small doses by the mouth, and may very well be substituted for the latter.

"11. The case is different with large doses; which are never absorbed in sufficient quantity to produce energetic stupefying effects [quininism?].

"12. In general, larger doses than thirty grains of sulphate of quinine are not borne by the large intestine.

"These conclusions are applicable in a greater or less degree to the various substances employed as enemata."—*Rev. de Therap. Med. Chirurg.*, Jan. 15.

We may expect from the report of a Committee or Commission, appointed by the Academy of Medicine, for the purpose of an analysis of the conclusions reached by M. Briquet, which, with apparent mathematical precision, seem to be deficient in their application to clinical medicine.

4. NITRATE OF POTASH IN LARGE DOSES IN ASCITES WITH ANASARCA.—We read in the Rev. de Ther. Med. Chir. (Jan. 15th, 1857), an interesting account, translated from the Chronica de las Hospitales, of a case of a man who, in eighteen days, was entirely relieved of ascites and anasarca by the use of large doses of the above remedy. On the first day of treatment, which was, as near as we can ascertain, about six weeks from the coming on of the dropsy, and upwards of seven weeks from the beginning of an attack of remittent fever which preceded the dropsy, the new medical attendant, M. Angulo, directed for his patient two drachms of nitrate of potash dissolved in a saccharo-mucilaginous vehicle, which was to be taken in a period of thirty hours. On the first day of treatment there was a slight increase of the urinary secretion; the stomach bore the medicine very well. On the following day the nitre was increased to rather more than three drachms. The patient had some alvine evacuations; the urine was more abundant than on the preceding day. On the third day the patient was much better. At his request the same medicine was given, the doses of which were successively raised until, on the eleventh day of treatment, they had reached eleven drachms two scruples, or nearly an ounce and a half in the twenty-four hours. On the twelfth day the body had resumed its customary size, after an excessive urinary discharge, which had supervened on the fifth, sixth, and seventh days.

In proportion as the serous effusion was absorbed, the appetite and strength were restored, and dating from the seventh day's administration of the nitrate of potash, the patient was able to walk about his room. At the time he came under the charge of M. Angulo, this man was unable to leave his bed, and so great was the anasarca and swelling of the eyelids that the globe of the eye was no longer visible.

The regimen consisted of preserved fruits, baked apples, panada, vermicelli soup, a little good wine, and at a later period a more abundant alimentation. After the twelfth day the dose of the nitrate of potash was diminished, and on the nineteenth its use was abandoned. On the 8th of January, 1856, or seven weeks and two days from the beginning of the nitre treatment, the man was so entirely restored to health, that he resumed his business on the road in trading in wine, which he transported by mules.

[The above narrated case is the more instructive, as nitre was the only remedy employed; and taking into consideration the state of the patient before it was prescribed, and the prompt change produced by this medicine, and the complete removal of the disease under a continuance of its use, we cannot resist the inference that it was the undoubted and sole curative agent. We may draw also another inference from a knowledge of this case, viz., that much yet remains for us to learn respecting the therapeutic nature of many medicinal substances with which we think we have a familiar and intimate acquaintance; and that, as our French contemporary justly observes, the art of handling them, if we may use the expression, will be richer in results than any physico-chemical speculations that may be indulged in.]

5. CHLORATE OF POTASH IN MEMBRANOUS FORMATIONS AND ULCERATIONS OF THE MOUTH AND THROAT.—In three successive numbers (from November 1st to

December 15th), of the *Revue de Therapeutique Medico-Chirurgicale,* M. Isambert has given some interesting clinical details on the therapeutic value of chlorate of potash in various forms of stomatitis and angina, the more prominent of which we shall lay before our readers. In the ulcero-membranous stomatitis of Rilliet and Barthez, the fibrinous or ulcerous stomatitis of other writers, chlorate of potash would seem to be entitled to the preference over all other remedies. West has spoken of it as meriting the title of specific. Under its use there is an astonishing amelioration of the disease as early as the second or third day, and from the seventh to the tenth day the cure is complete. This writer directs three grains in a sweetened solution every four hours, to a child three years old; and five grains to one eight or nine years of age. It is admissible in all the stages of the disease. When constipation is present a purgative should precede the use of the chlorate. Equally gratifying results were announced, by M. Blache, of his experience in the Hospital for Children. Under the use of the chlorate of potash, the children, five in number, affected with ulcero-membranous stomatitis, were cured in five or six days, and without their being subjected to a relapse; whereas, in six cases which were treated by cauterization with muriatic acid and chloride of lime, the mean duration of the disease was twenty days. To the same purport are the cases, two in number, furnished by M. Barthez, and in a still more startling degree the twenty-one cases treated by M. Bergeron, in the Military Hospital at Roule.

M. Isambert makes some useful observations in confounding the experience of others in this matter, and at the same time offering some new suggestions to enable us to meet certain contingencies. He recommends a continuance in the use of the chlorate some time after the detachment of the false membrane, in order to prevent a relapse; and he regards preliminary cauterizations as uncalled for; while, at the same time, he thinks this salt powerless in inter-alveolar pyorrhœa. Often the ulceration is diminished and even cured, at the same time that the false membrane comes away. Even where the excoriated surface is seen after the detachment of the membrane, it is soon cured. In other cases again, it must be admitted that this condition of the part remains stationary, and the chlorate of potash produces no effect.

In aphthæ, or a vesico-ulcerous state of the buccal mucous membrane, seated in the muciparous follicles, chlorate of potash has been used with advantage. M. Legroux has derived good effects from this salt in the white thrush (muguet), the pultaceous or curdy stomatitis. In scurvy, recent experience is confirmatory of the opinion advanced several years ago, of the efficacy of chlorate of potash.

In angina maligna, in fibrinous angina, the chlorate of potash begins to figure as an important remedy. A pathological remark of some interest may be made here. It is, that all the morbid depositions of a membranous character on the mucous membrane of the mouth, pharynx, larynx, and trachea, from the elastic ribbon-like membrane of croup to the pultaceous coat in the mouth, and over the tonsils, of the least cohesive nature, and including that in angina maligna, and scarlatina, and in fibrinous stomatitis, exhibited under the microscope, to the observation of M. Robin, an identical composition; that is to say, that they consisted of almost pure fibrin, often a little mixed with epithelial remains, and some globules of pus and blood. The difference of cohesion, so much insisted on, depends only on a difference in molecular grouping, and in the smallest pultaceous shred the microscope shows the fibrillary structure of fibrin. This sameness in the product of exudation in the diseases just named, does not, by any means, imply a sameness in their other pathological features, and certainly not in the therapeutical means by which they are combated. In the matter of prognosis it has been observed, that whenever, in membranous angina, the cervical glands are much affected by engorgement and swelling, we must apprehend an alarming condition of the patient, if not a fatal termination of the disease.

Four cases of membranous angina in children are detailed by M. Isambert, in which cures were obtained by the use of the chlorate of potash alone. In four others its administration did not prevent a fatal result. As auxiliary means, it was observed that simple astringent gargles, or such detersive injections were preferable to caustics, which, in some cases, seemed, so far from accelerating to retard the curative action of the chlorate of potash. The utility of these latter is displayed after the false membrane comes away. Real adjuvants were found in the internal use of tonics, and especially in the preparations of cinchona.

6. JELLY OF ICELAND MOSS AND COD-LIVER OIL.—Professors Estor and Alquié have spoken favorably of a preparation made by M. Sauvan, of Montpellier, in thoracic affections. The following are the formula and mode of preparation of this new combination:

Jelly of Iceland Moss, ...	125 grammes	(32 drs).
Gelatine, ...	5 "	(4 scruples).
Cyanhydrated Cod-Liver Oil (with two drops of essence of bitter almonds), . . .	125 "	(32 drs.)

Prepare the jelly of moss in the usual manner; melt the jelly, and pour it into the vessel into which it is to be kept. Add then the cod-liver oil; stir with a spatula until the mixture is homogeneous, and until the jelly begins to form.

This jelly is to be given in the same doses as the cod-liver oil, two or three tablespoonfuls a day. Professor Estor adds to the above formula fifteen drachms of the syrup of phellandrium.—*Bulletin de Thérapeutique.*

7. MODE OF ADMINISTERING IODINE IN LARGE DOSES WITH ENTIRE SAFETY—M. Lasègue asserts, after numerous trials of the article, that the internal administration of tincture of iodine, in doses beyond those commonly given, is quite safe. In order, however, to avoid painful sensations, a kind of gastralgia, which is often induced by the use of this medicine, it ought to be taken only at meal-time; so that the gastric excitement produced at this time will not be productive either of pain or injury, but will rather favor digestion. With this precaution M. Lasègue has progressively increased the dose from 8 or 10 drops to four scruples, and a drachm and a half, during the meal; the patient taking as an excipient a little sweetened water, or, preferably, Spanish wine.

The physiological effects long since described by Lugol have been regularly noticed, as well as the therapeutical results, without there ever having occurred the slightest accident in evidence of a temporary intoxication (iodinism).—*Révue Thérap.*

8. TINCTURE OF IODINE FOR VOMITING IN PREGNANCY.—Dr. Eulenburg, of Coblentz, tells us, in the *Gazette Médicale Etrangère*, that this tincture, even in small doses, is one of the best agents for the relief of the vomiting, which so often distresses pregnant woman. He prescribes it very diluted, as follows: tincture of iodine, one part; rectified alcohol, four parts and a half; mix. He directs of this diluted tincture three drops in a little water. This remedy, in addition to its anti-emetic effect, calms the often accompanying cardialgia and gastralgia. He has not derived the same good effects, in these affections, from the iodide of potassium.

9. IODINE ENEMATA IN THE TENESMUS OF DYSENTERY.—In an epidemic dysentery, which prevailed in Wurtemberg, in 1854 and 1855, Doctor Palm was very successful in calming the tenesmus which so much tormented the sick, with an enema, consisting of iodine, 1½ grains; iodide of potassium, 15 grains, in an ounce of the vehicle. [Though not directed by Doctor Palm, we would recommend that the iodine and its salt be previously dissolved in a small quantity of water, and then mixed with mucilage of flaxseed or gum. Starch would of course be objectionable.]

The iodine injections, repeated once or twice daily, and continued for two or three days, were uniformly followed by feelings of great comfort, the more noticeable because other kinds of enemata, vapor bath, &c., were either inefficacious, or at the most, had only a palliative effect. The efficacy of iodine enemata was first pointed out by M. Eimer.—*Wurtemb. Corresp. Blatt.* 1856.

OBSTETRICS.

1. ON THE USE OF ICE IN UTERINE HEMORRHAGES. By *E. A. Hildreth*, M.D., Wheeling, Va.—[The introduction of ice into the cavity of the uterus, although a very old remedy, is one which has never been much used in this country, especially in country practice, and it is only for the purpose of reminding practitioners of its potency and efficacy in uterine hemorrhages, that we copy from the February No. of the Cincinnati Medical Observer, the following report of four cases, thus treated.] "The safety of passing a quantity of ice into the cavity of the uterus after the expulsion of the child or placenta, has been questioned by some, as, I believe, on purely theoretical grounds. The effect in every case I have used it, has been to contract the uterus quickly, energetically, and permanently; and as a matter of course stop the uterine flow. I have yet to see any unpleasant result, directly or indirectly arising therefrom; on the contrary, the relief afforded has been prompt and permanent.

"I do not wish to theorize on the subject at this time. Allow me to subjoin a few *facts* as observed and noted when they occurred.

"*Case* I. June 16th, 1846, Mrs. McC., æt. 40, in labor with her fourth child. Describes her previous labors as 'lingering.' On examination by the touch found the os uteri thick, firm, opened as large as a half dollar; membranes entire; breech presenting; pains slight. Prescribed pulv. ipec. comp. grs. xii, and left, requesting them to call on me when the pains became more active. Called back in 6 hours, found her pains strong and expulsive, and half an hour after the child was expelled. Upon introducing my hand along the umbilical cord, it was ascertained that hour-glass contraction was present; the placenta remaining at the fundus of the uterus. An attempt was made slowly to pass the hand through the contracted portion, but failed. Gave her morphia sulph. grs. ss, and permitted her to rest. Says she has felt no pain since the birth of the child. In about half an hour she had some pain, with profuse hemorrhage. Used affusion of cold water over abdomen with pressure, and gave her, ℞. Morphia acet. grs. ½, plumb. acet. grs. iii. Flooding is checked. Endeavored to extract placenta, but failed. In about fifteen minutes flooding returned to an alarming degree. Placed pounded ice over hypogastrium, and introduced several pieces into the vagina as high as os uteri; flooding restrained and hour-glass contraction relaxed, so that the hand could be introduced and placenta extracted. Five minutes after the flooding returned. Passed my hand into the uterus in hope of provoking contractions, but without effect—it feels like a *wet leather bag*. Pulse very small and frequent, face and lips pallid; complains of faintness and dizziness. Fearing now her rapid dissolution unless a more successful treatment was pursued, I seized a lump of ice as large as a lemon, and carrying it through the os uteri slipped it from my hand. The effect was immediate and powerful, expelling a quantity of coagula, and contracting the uterus to its usual size and firmness; a graduated compress and bandage were then applied; pulse 120, small, weak; complains of giddiness. M. M. perfect rest in horizontal posture; pulverized opii. grs. iii, immediately after rest, panada with brandy. Saw her four hours after; has slept some; no return of 'wasting;' feels comfortable; pulse 100, soft, full; womb well contracted; no pain on pressure.

"17th. Feels well; slept well last night; pulse 90, weak; likes her panada; no pain or tenderness over abdomen; lochia not more free than usual; M. M. let her rest.

"18th. Doing well. 22d, thinks she can sit up; forbid it, and discharged her, well.

"*Case* II. Nov. 7th, 1847. Called in haste to see Mrs. B.; found a German woman attending her as midwife; the child had been born about an hour; placenta not delivered, but she was flooding profusely, which alarmed the midwife; removed the placenta and gave morphia grs. ss; friction with pressure over uterus; sent for ice; hemorrhage somewhat less; her face is blanched and anxious; pulse very frequent; passed a lump of ice as large as a walnut *into the uterus*, which was followed by expulsion of coagula and firm contraction; repeated morphia gr. ¼, and left her in care of midwife. She had no return of hemorrhage, and subsequently did well.

"*Case.* III. Called in consultation with Dr. W., of M., to see Mrs. M., a large, fleshy woman, who had had miscarriage at the third month of utero-gestation. The fœtus had been thrown off for several hours, but placenta retained; frightful hemorrhage supervened, during which she had twice fainted while in the horizontal posture; the placenta could be felt through the os uteri with the point of the fore-finger; sent for ice, and during the absence of the messenger, endeavored to extract the placenta with Dewees' placental hook, but failed. Dr. W.

had previously used morphia, acetate of lead, cold applications, etc., but the flooding continued, though in a more moderate degree. From her general appearance, coldness of surface, feeble pulse, etc., concluded she must soon sink if not quickly relieved. At this juncture the ice came, and we prepared a crystal about the size of the index finger, and passed it through the os into the cavity of the uterus, as far as possible, and allowed it to melt; the flooding ceased and did not return again, although the placenta was not thrown off for 30 hours afterward. She recovered.

"*Case* IV. April 22d, 1849. Mrs. O., after a natural and easy labor, was delivered of a second child; placenta followed in 15 minutes; bandaged her and left her doing well.

"May 30th, called to her in haste; says she was taken 'unwell' yesterday; the discharge growing more profuse ever since (there is a case of cholera in the next room, and she is badly frightened); her bed is now saturated with blood, and she is flooding rapidly; os uteri easily admits the fore-finger, and is soft and dilatable. Gave her acet. plumbi and opium, applied douche of cold water, ordered ice and used the plug; hemorrhage still profuse; complains of giddiness and singing in the ears; pulse very frequent and feeble; face blanched; reapplied cold douche, but without effect. Her husband, after considerable delay, brought the ice; I removed the plug, which was followed by a considerable gush of blood; introduced into the uterus several pieces of ice the size of a chestnut, with the effect of stopping the flooding instantaneously. May 31st. Has had no recurrence of hemorrhage since the use of the ice. June 1st. The discharge from the uterus scarcely stains her cloth. She recovered.

"We hope the above detail is sufficient to give an idea of its application. We have never tried it in a case of placenta previa. As to its being 'something new,' I do not know nor care; if by making the practice more generally known through the pages of your valuable journal, I become instrumental in saving one poor woman from death by uterine hemorrhage, I shall be fully compensated."—*Medical Observer*, February.

2. A CASE PROVING THAT MENSTRUATION IS NOT ONLY OVULATION, WITH OR WITHOUT A SANGUINEOUS DISCHARGE; BUT THAT IT IS ALSO THE PERIODICAL EXFOLIATION OF THE MUCOUS MEMBRANE OF THE BODY OF THE UTERUS. By *D. W. Brickell*, M.D., Prof. Obstet. N. O. School of Med.—"About six months ago, I was performing an autopsy in the dead-house of the Charity Hospital. On an adjoining table lay the body of a stout young female, who was said to have died of disease of the heart. She had died a few hours previously, and was still quite warm. The thorax and abdomen were laid open. The body had been abandoned, and curiosity led me to examine the internal organs of generation. The uterus and appendages had been cut from the pelvis, and the anterior wall of the organ had been laid open. The moment I saw the organs, I was struck with their being highly engorged with blood, and the uterus was considerably larger than usual. The pelvis was filled with blood, which had flowed from the vessels when the organs were detached. The next thing that attracted my attention was the most palpable specimen of *recent* corpus luteum in one ovary. The corpus was large and prominent, and the depression on its centre, exhibiting the point of

escape of the ovule, was evident beyond all cavil. In this same ovary one other Graafian vesicle seemed fully matured, the parts surrounding it being highly congested, but the ovule had not escaped. The other ovary was generally congested, but there appeared to be no mature Graafian vesicle.

"But the most interesting feature in the case, was the *complete absence of the lining membrane of the cavity of the body of the uterus.* The moment my eye alighted on the inner surface of the organ, I recognized the woodcut of Tyler Smith, in the May, 1856, number of the *Lancet* (Amer. edition), representing the inner surface of the uterus of a woman who died of apoplexy during the catamenial flow. Nothing could have been more striking than this resemblance; and if I had ever been sceptical in relation to the observations of the author, I was now bound to admit his accuracy. Down *to the os uteri internum* the mucous membrane was gone, and the inner surface of the organ rough, with innumerable blood-spots scattered over it. All *below* the os internum was smooth, and in every respect natural in appearance. The difference in sensation conveyed to the finger by touching the two surfaces was as palpable as the impression conveyed to the eye.

"The only doubt now remaining about the case was, whether it might not be a uterus which had very recently been delivered of an early ovum. More extended examination, however, proved clearly that this was not the case. The vagina was very small, and its mucous membrane highly corrugated; and there was a well-defined hymen. To add to this the mammæ showed none of the changes generally produced by early pregnancy.

"The subject was, to all appearance, about eighteen or twenty years of age, and quite robust. She was the subject of anasarca to a considerable extent, and was said to have died very sudcenly—her death being attributed to disease of the heart. I tried to get a more accurate history of her from the nurse of the ward in which she died, but, as is too often the case, she only knew that such a woman had been in the ward, had lived, and then had died.

"Tyler Smith says, 'According to my view, the mucous membrane of the uterus becomes excrementitious every month, and is discharged from the cavity of the uterus in a state of disintegration, and the uterus forms a new mucous coat, by a process similar to the reproduction of lost parts.' Coste and others speak of the exfoliation of the mucous membrane of the uterine cavity under certain circumstances; but, so far as I am aware, Tyler Smith is the original advocate of the theory above laid down. After reading all the observations I could procure on this interesting subject, I was altogether inclined to adopt this theory, and the case I have thus described only the more strongly tends to prove its correctness."—*N. O. Med. News and Hosp. Gazette,* Feb. 1857.

3. HEMORRHAGE AS A SIGN OF CANCER OF THE UTERUS.—"Dr. West remarked, in his out-patient's room, at St. Bartholomew's, on the almost constant occurrence of hemorrhage as a symptom of commencing cancer of the os uteri. He believed, he said, that it was quite as constant and valuable a sign, in relation to that disease, as hæmoptysis is in respect to tubercle in the lungs. Of course, inasmuch as the uterus is in health subject to sanguineous discharges, there is need of care in determining that the sign be really one of disease; that, for instance, it occurs

with an irregularity, and a profuseness greater than disturbed catamenial function could account for. The symptom has its peculiar value when the subject of the affection has previously ceased to menstruate. Dr. West stated, that he had long recognized the importance of the symptom, but that on recently counting up his cases of uterine cancer he had been astonished to find how almost invariably it had been the earliest sign of the existence of the disease."—*Times and Gazette*, Feb. 21, 1857.

4. STERILITY DEPENDENT ON DISEASES OF THE RECTUM. By *I. Baker Brown*, F.R.C.S.—"I shall now proceed to speak more fully of a series of causes of sterility, which, as before said, have not been previously recognized, viz., diseases of the rectum. Let me first recall to your minds the general law of the animal economy, 'That any irregularity or interference with the functional action of any one part of the body affects more or less the whole body.' If this law pertain to the body generally, how much more must it obtain between the female organs of generation, where the slightest deviation from normal functional action must materially interfere with the delicate physiological process of impregnation, and the contiguous organs. We must bear in mind that both the rectum and uterus are supplied with blood from the internal iliac artery, and with nervous influence from the sacral plexus, and that, therefore, disease or functional derangement in the one part or organ must interfere with the other. This I desire to illustrate in the following manner: A female is suffering from bleeding hemorrhoids. At the menstrual epoch there is an increased supply to the hemorrhoidal vessels; and consequently, a diminished supply to the uterus, because nature only sends down a sufficient supply for the uterine function. The mucous membrane of the uterus will not, therefore, in this case undergo those normal changes which are necessary for the reception of the impregnated ovum. The same observations apply to prolapsus ani, where there is always some loss of blood at every time of defecation, and a greater loss at the period of the menstrual epoch. I could illustrate this with many cases, but one will suffice:

"*Sterility from Prolapsus Ani.*—Mrs. H., aged 33, married ten years, without family, consulted me on account of prolapsus of the bowel at every act of defecation, accompanied by loss of blood. The general health had greatly suffered. Upon questioning her, she confessed that during married life the catamenia had been scanty, thin, and light in color; but that during the menstrual period much blood was lost from the bowel. The affection of the bowel, I pointed out, was readily curable; and, as there was no uterine disease to be detected, that the state of the bowel was the probable cause of her having had no family.

"After preparatory regimen and medicine I proceeded to operate a week after the menstrual epoch. The bowels having been previously freely opened. I applied three separate ligatures to the prolapsed mucous membrane, and returned the tied parts within the sphincter. Opiates were freely given, and continued for a week so as to keep the bowels confined, and she was placed on generous diet, with wine. This patient progressed most favorably, the bowel was completely relieved, and at the next catamenial period, the uterine discharge was much augmented both in quantity and color. Tonics and good diet were persevered with, and she lived apart from her husband for two months. Soon after this period she became pregnant, and advanced to the full period, and was delivered of a fine healthy child.

"If a patient is suffering from fistula or fissure, there is constantly more or less pain in the uterus as a result of reflex action; and, consequently, it is always under a state of irritation, which renders it unfit for the quiet and perfect performance of its duties. Indeed, I have seen many cases, which I shall mention on a future occasion, of patients having been treated for months and years for uterine inflammation with leeches, caustics, &c., where I have discovered a long-standing fissure of the bowel, which has been the sole exciting cause of the uterine affection. I shall here give a case.

"*Fissure of the Rectum.*—Mrs. M., aged 26, married three years, without children, consulted me and made the following statement. Ever since her marriage, she had suffered from more or less pain about the womb, not acute, but of a dull, wearing kind. Catamenia were regular, both as to time and quantity, and she suffered very slightly from leucorrhœa; had no pain on sexual intercourse, but felt generally ill, and suffered from dyspepsia. An examination per vaginam satisfied me there was no disease of the uterine organs. On further inquiry, she told me she suffered constant pain at stool, and frequently passed a small quantity of blood; a local examination showed me a deep and long-standing fissure of the rectum, which, to my mind, explained all her symptoms, and was the probable cause of her sterility. After preparatory treatment, I accordingly operated in the usual way by dividing the fissure. The after-treatment consisted in placing her under the operation of opium, giving her at once two grains, and every four hours after, one grain, for the first twenty-four hours, then for the next day one grain every six hours, and for the next week a grain night and morning; my object and principle being not only to secure perfect quiet for the bowel, but to obviate all pain. With this treatment was conjoined generous diet, and, according to rule, the recumbent posture was insisted on, until the parts were well healed; at the end of nine days the bowels were opened by repeated injections of tepid water. This plan of confining the bowels after operations about the rectum and perinæum, the use of generous diet and wine, and the subsequent administration of enemata, has received a full consideration, both in some papers I have had the honor of reading before the Medical Society, and in my work on the treatment of some important surgical diseases of women.

"From the foregoing observations it will readily be seen that ascarides in the rectum, or any irregularity or disease of that bowel, must necessarily be a frequent cause of sterility. It is very gratifying, however, to know that when once the mind has been drawn to this fact, the cases become more simple and among the most readily cured."—*Times and Gazette*, Feb. 21, 1857.

5. DISCUSSION AT THE PARIS ACADEMY OF MEDICINE UPON THE TREATMENT OF OVARIAN CYSTS.—This discussion, which had been continued over many meetings, has recently terminated, and a concise summary of the opinions advanced will no doubt be of some interest to our readers. They will learn with some surprise, that the operation of ovariotomy, under any circumstances, is absolutely ignored by the French surgeons; and the cases in which neither the palliative treatment, nor the treatment by iodine is admissible, are quietly left without any

attempt being made to avert certain death. A shuddering horror is expressed at the rash conduct of British and American practitioners, as if none but the most prudential surgery ever prevailed on the other side of the Channel; disbelief is expressed at the amount of success recorded, while the mistakes in diagnosis, which it must be acknowledged have been of too frequent occurrence, have evidently made an impression greater than is justifiable.

The discussion was occasioned by the relation of a case by Dr. Barth. The patient, 37 years of age, had suffered from ovarian disease during two years, when, on the 10th of March, two punctures were made, in such a way that a gum-elastic tube, pierced with holes, was passed in at one end and out at the other, so as to allow of the tumor being retained against the abdominal wall, while its contents could be discharged and injections thrown in. We may mention, *en passant,* that this mode of procedure, or that of leaving a canula in the opening, was generally disapproved of by the Academy. Ten days afterwards an iodine injection was thrown in, and repeated for some days; the tumor diminished in size, but the patient getting tired, left the hospital. On the 26th of May, however, she was brought back in the pains of childbirth, although she had been quite unaware of her pregnancy, and was delivered the same day of a five months' child. Acute peritonitis followed, and she died on the 28th. At the autopsy, the cyst was found half filled with the same albumino-purulent fluid that had flowed through the canula during life, while at its upper part was a round opening the size of a sixpence, through which some of the fluid had gained access to the peritoneum. Behind the tumor, the uterus had contracted, and presented the appearances usual after delivery.

M. Malgaigne commenced the discussion by raising the question, whether these tumors should be let alone or treated by palliative punctures. Such punctures are, as a general rule, inoffensive, and give relief; but while women are found coming to the *Bureau Central*, undergoing the puncture, and walking home again (!), others of them die within the twenty-four hours. When danger of suffocation exists, however, puncture is evidently called for. As to the curative powers of iodine injections, he believes the reputed cases require verification; while, if they have really taken place, nature may have effected them in spite of the surgeon. Some amount of contraction of the cyst may be determined by the iodine; but, as this is only limited, a dangerous fistulous opening may be left. As at present advised, he does not go beyond mere palliative puncture, and that only in certain cases.

M. Moreau observed, that the coincidence of these cysts with pregnancy is by no means rare; several of such cases having come under his notice, which, while the cysts were large enough to require puncture on account of the obstacle they placed to delivery, yet had they not interfered with the progress of pregnancy, which reached its full time. He believes the best plan is to meddle with ovarian tumors as little as possible, for some patients have these cysts for fifteen or twenty years without their health being inconvenienced. When they make considerable progress, palliative punctures are alone called for. In one of M. Moreau's patients these were performed twenty-eight times in twenty-eight years, and in another one hundred and ten times.

M. Cazeaux has paid much attention to this subject, and he is certain that cures may be obtained by means of iodine injections; for he has seen some of M. Boinet's patients three and five years after, when all that remained was a solid tumor, about the size of the fœtal head, possessing none of the characters of cysts. The treatment is not applicable to multilocular cysts, or when there are malignant complications, and when from faulty diagnosis, it is resorted to in such cases, death may be the result. Ovarian cysts are by no means so inoffensive as stated by M. Moreau, and the retention of health in spite of their presence is quite exceptional. Tapping generally becomes indispensable; and after this has been repeatedly performed a fatal result usually takes place at the end of a few years. M. Cazeaux also regards the complication of pregnancy by these cysts as a much more serious occurrence than M. Moreau represents it.

M. Velpeau believes that, perhaps, in the majority of cases, women having these tumors, may enjoy tolerable health for ten, twenty, or thirty years; in fact, the mean of ordinary life: but still there are others not so fortunate, but who succumb within the first ten years, whether from the excessive development of the cyst, its inflammation, the tapping it has rendered necessary, or intercurrent diseases. As to the palliative tapping, M. Velpeau had performed it so often that he had come to look upon it as a very simple affair, when he lost several patients in the course of a single year. As, for a reasonable chance of effecting a radical cure in these cases, the woman's health must be tolerably good, the surgeon is placed in the dilemma of determining whether he shall propose to a woman in good health an operation which may kill her, or abandon her to a disease that may become dangerous. Great as has been M. Velpeau's employment of iodine injections in other circumstances, he has always felt reserve in using them in ovarian cysts. Numerous facts have shown him that they exert remarkable power in dropsies of serous membranes, and that their success is less in proportion as the surface to be modified differs in structure from these. In cysts containing uncoagulated blood they may still exert good service; but they are of less use when the contents are gelatiniform, still less when puriform, and scarcely of any utility when the parietes resemble mucous membrane in structure. Observing the success of others, M. Velpeau has latterly had recourse to these iodine injections himself, and with some good results; and as he believes the injection of the iodine does not add to the danger of tapping, he thinks there is no reason why an attempt at curative should not be substituted for mere palliative treatment.

M. Demarquay detailed to the Academy the result of several cases treated by himself and M. Monod. He believes that emptying these cysts all at once, when large, excites disturbance of the system, and presents too large a surface for the efficient action of the iodine. Availing himself of the shrinking which takes place in the cysts, he first only draws off one half of their contents; and then, a week after, when the walls of the abdomen and of the cyst have retracted, he removes two-thirds of what remains, and some days later completely empties the cysts by a third puncture, and throws the iodine into the now diminished cavity. A large trocar should be used, and the entrance of air guarded against.

M. Trousseau.—In the majority of cases ovarian cysts constitute neither a disease nor an inconvenience; that is to say, when their dimensions are small, as that of an orange or less, in which state they are often met with in the bodies of the aged. The bursting of simple serous cysts also gives rise to no ill effects. M. Trousseau never met with a case of their spontaneous absorption, unaccompanied by inflammatory action. We must always bear in mind that these tumors, like fibrous bodies of the uterus, may, under the influence of the menstrual *molimen*, acquire a great size, and then diminish again; and the diminution that has taken place in some cases, during the employment of iodine, may in this way be explained. The results of palliative tapping would, probably, be more fortunate, if it were practised when the cyst is small, *i. e.*, not exceeding a child's head in size; for, in the case of inflammation supervening upon the operation, this is less severe in proportion to the smaller size of the cyst, while the walls are more retractile, not having yet assumed the morbid conditions they will do at a later period. As to iodine injections, feeling somewhat afraid of them, M. Trousseau has not yet sanctioned their employment in any of his patients, and he questions the durability of the cures said to have been obtained by others.

M. Jobert observed, that although simple tapping is regarded by some as an operation devoid of danger, under certain circumstances it is a very dangerous one. A capital distinction should be made between *adherent* and *movable* cysts, the operation never in the former case being attended with danger, while in recent, free, floating cysts, the fluid may get into the cavity of the peritoneum, and give rise to fatal diffused peritonitis. To prevent this, the canula should be maintained *in situ*, in order to determine adhesive inflammation between the contiguous surfaces of the cyst and the abdominal wall. No accidents have ever followed M. Jobert's operations when thus conducted. He has never observed a cure to result from simple tapping; but in two cases it has done so after multiple punctures, which have been followed by the deposition of plastic lymph in the substance of the tumor, and the obliteration of the sac. He has employed the iodine injections in thirty cases, and has never, observing the above precautions, met with any serious accident. In several cases a relapse has occurred, although the tumor had seemed to have been completely obliterated. So far from exciting inflammation, the iodine arrests it when present; just as in the case of hydrocele, it at once moderates the symptoms of orchitis. The greatest analogy, in fact, prevails in the results obtained from its injection into the tunica vaginalis, and into these cysts. At first the fluid is reproduced, giving to the cyst its original size; but it then becomes condensed and concretes. M. Jobert regards these injections as inoffensive, providing that the inflammation by which they are followed does not extend over too large an extent. Evidently, a cure cannot always be looked for, *e. g.*, in cysts having cartilaginous walls, or containing malignant deposits, and multilocular cysts have been placed in the same category. In a case of multilocular cyst of the thyroid, however, M. Jobert dispersed the whole tumor by injecting one of its cells; and he has known a complete cure of a multilocular ovarian cyst take place after six applications of electricity. To sum up: palliative tapping is never dangerous when there are adhesions to the wall of the abdomen. Puncture, leaving a fistulous opening, is a dangerous proceeding. Iodine injections and electricity, exempt from serious inconveniences when carefully employed, may lead to a cure, without our being as yet able to explain the mechanism of their operation.

M. Piorry observed, that when the walls of the cyst are thin the chances of success with the iodine are much greater, while they are very slight when these have become thickened and firm, and formed of different tissues, or of fibrinous, or even cretaceous substances. Very large cysts, which induce dangerous symptoms by their compression, must be tapped, whether adherent to the walls of the abdomen or not; and such palliative tappings may prolong lives for many years that would otherwise have been lost by the progress of the disease. For a long time past M. Piorry has advocated, like M. Demarquay, the discharging a portion of the fluid first, and only injecting the iodine at a later period. When with a very large cyst, there exist also several small ones, iodine injections are indicated; and if two or three of large size are detected, these may be successfully attacked. The partitions of these cysts may also be perforated with the trocar, so as to discharge their contents at a single external opening; but when there are a great number of cystoid tumors united into a mass, palliative puncturing is alone indicated. When, independently of the large ovarian cyst, solid, irregular, adherent productions, coexist, little is to be hoped from the use of iodine; but while employing palliative puncture of the cyst, the solid tumors are sometimes favorably influenced by douches, iodine frictions, and in certain cases, even by a kind of shampooing and compression. Early tapping of an ovarian cyst is indicated, when, by its thrusting the viscera towards the thorax, it threatens suffocation; when the compression of the vena cava and vena porta induces ascites or œdema; when the passage of matters through the alimentary canal is obstructed, or when painful prolapsus of the uterus is induced. In general, too, an ovarian cyst, which by the abundance of fluid it gives rise to induces extreme hypoæmia, will be advantageously treated by its prompt evacuation and the throwing in of iodine. An ovarian cyst containing pus should be opened only after adhesions have been induced between it and the abdominal parietes. Then, its contents should be completely evacuated, either by puncture or large incisions, its interior washed out, and iodine injections thrown in daily until pus ceases to flow.

M. Piorry is of opinion that, whether large or small, the evacuation of ovarian cysts should be as complete as possible; and to secure the complete discharge of the fluid, whether in these cases or in ascites, he has long been in the habit of passing a gum-elastic catheter through the canula, and constituting it a syphon. He also attaches importance to the prevention of the penetration of air during the tapping, and this he does by applying over the point to be punctured a glass cylinder having no bottom, and filled with water. Puncturing through this, some water may enter but no air; and to the same end, the extremity of the syphon may be placed in water. He also recommends two other precautions. 1st. The tumor should be most carefully percussed, the shades of dulness observed, and their limits traced with a pencil. In this way we soon get to know whether there are more than one cyst, and the positions and relations of these; and, especially, whether there is a noose of intestines between the tumor and the wall of the abdomen. Without this precaution the intestine, supported by the tumor, is very likely to be pierced through and through. In ascites this does not take place, for the intestine being mobile, and unsupported behind, the trocar does not traverse it. M. Piorry has tried numerous experiments upon the dead body, and has usually found, when adhesions have not been present, and the intestines have only been distended by air, even the sharpest trocar will rather push them before it than penetrate them. 2d. The position given to the patient is of great importance. M. Piorry always punctures at the side, and, having completely emptied the cyst by means of a syphon, places the patient during the next twenty-four hours on the opposite side of the body. In this way no fluid can reach the peritoneum, and induce its inflammation.

M. Gimelle, although aware of exceptional instances of these tumors remaining stationary for twelve or twenty years, is an advocate for interference, when the disease continues to make progress so as to threaten to reach that large size, which, after a greater or less number of punctures, always terminates fatally. The conditions justifying iodine injections, in his opinion, are: 1st. When the cysts present no abnormal changes of structure, being neither cartilaginous nor indurated, and giving no sensation of hard or scirrhous bodies within. 2d. When its size does not exceed a diameter of ten or fifteen centimetres, or when it is larger, after it has been first reduced in size by frequent preliminary tappings; so that in the event of inflammation occurring, it may be limited to as small a space as possible. He then throws in thirty drachms of tincture of iodine, diluted with eight or ten of water, leaves it in for some minutes while exerting gentle pressure on the abdomen, then evacuates as much as possible without employing compression, and leaves the patient in a state of absolute repose. He cites two cases, occurring in young women, in which this practice was successful.

Dr. Schnepf communicated to the Academy the results of Dr. Fock's experience in the iodine treatment, which he has employed in fifteen cases. Of these, nine were radically cured after from one to six injections. Of the six others, in two cases a cure followed keeping the wound open and repeated washings out with iodine injections; in one, similarly treated, purulent infection followed. In two others, complicated with cancer, the iodine hastened the catastrophe, while in the last patient it exerted no effect.

M. Cruveilhier.—So parasitic is the life of ovarian cysts, that they remain completely strangers to all the great vital and organic movements of the economy; so that while dropsies of serous membranes may be often advantageously treated by internal medicines, these encysted dropsies are quite refractory. It is to surgical treatment that we can alone look with any hopes of success, but our decision to have recourse to this should be materially influenced by the anatomical characters of the cysts, which are far from being always the same. The differences are dependent upon the quality of the fluid, the disposition of the cyst, and its structure. (1.) It is of great importance, as regards facility of evacuation, whether the fluid be serous, viscous, albuminous, or gelatiniform, and the character of the fluctuation will to a certain extent enable us to pronounce upon the nature of this fluid. (2.) The cysts may be either unilocular, multilocular, areolar, or vesicular, and compound, the latter resulting from a union of the other varieties. (3.) In structure the unilocular cyst sometimes exactly resembles a normal fibroserous sac, its interior being as smooth as if lined with serous membrane; but it is by no means rare to find the inner surface rugous, or raised by papillæ or vegetations of varying hardness, or occasionally the walls may contain cartilaginous or even osseous plates. In one of the varieties of unilocular cysts there are numerous imperfect divisions, allowing of intercommunication between the compartments. In what M. Cruveilheir terms areolar cysts, of which the vesicular is but a variety, the ovary has become transformed into an areolar mass, having communication between its meshes, and filled with albuminous matter, varying in consistency from the white of egg to that of honey or jelly. The viscous nature of its contents explains the difficulty or impossibility of evacuating it after tapping. These cases may be regarded as absolutely incurable, not from their nature, which is not malignant, though they greatly resemble in appearance gelatiniform and areolar cancer, but owing to the viscous nature of their contents. Another incurable form is the multilocular cyst, having numerous and non-communicating cells, the contents of which are almost always albuminous. The unilocular ovarian cysts, which are alone amenable to palliative and curative treatment, are fortunately those oftenest met with. M. Cruveilheir approves of leaving them alone as long as possible, for tapping once commenced has to be repeated with increasing frequency until the patient's strength becomes exhausted. He has had no experience in the employment of iodine, but he regards the facts now known as sufficient to justify its recommendation. The rock on which it may split is the morbid structure of the walls of the cyst, and the ease with which the accidental fibrous or fibro-serous tissue of which it is composed suppurates, or even becomes gangrenous. M. Cruveilhier cites cases in which such results have followed simple puncture, independently of the production of peritonitis. Still such cases are rare, and in his large practice he has only met with three cases of death following simple puncture,—the toleration of the operation seeming to increase with the frequency of its performance. In these cases, the cystic rather than the peritoneal inflammation which results, may yield to active treatment, while there are even instances of definitive cure having resulted, owing to adhesive inflammation having been excited by the puncture.

(To be continued.)

6. Use of Belladonna in Arresting Secretions of Milk in Swollen or Painful Breasts. By *Samuel Willey*, M.D., of St. Paul.—"Upon reading Dr. Goolden's letter in the number of the *London Lancet* for October, 1856, I resolved to make early trial of the remedy, and five cases have been furnished me of tumefied and painful breasts, not differing in any essential feature from those reported by Dr. G., in which the free use of the extract of belladonna to the areola has acted like a specific in every instance. Once only did assistance seem required—citrate of magnesia having been given where protracted constipation obtained. Notes of the cases were kept without the remotest idea of publication, until I saw the article copied into the *Observer* for December. I hand you two extracts from my note-book.

"Mrs. B., aged 18, child aged 11 months, commenced menstruating regularly five months after birth of child; catamenia not occurring on 12th Nov., when expected, together with the appearance of an obstinate diarrhœa in the child, induced weaning, which was soon followed by distended and painful breasts.

Ordered, that the breasts should be well drawn, and an ointment, composed of ext. belladonna and simple cerate, two-thirds of the former to one of the latter, to be rubbed upon the nipples and areola every two hours. Three hours subsequently, found breasts flaccid and free from pain, much to the wonder of the lady, and the surprise of myself. No re-filling.

"Mrs. P., aged 21, having lost second child aged seven months, suddenly suffered with red, turgid, and throbbing breasts; pain much aggravated by riding to the cemetery, two miles distant, temperature 12° F. below zero. The application of belladonna *to the entire breasts* was made in this case, and complete relief was obtained in six hours. Extreme dilatation of the pupils with strabismus was produced, which passed away soon after the administration of paregoric in hot brandy sling. This was the only case where other than the nipples and areola were anointed."—*Cin. Med. Observer*, April, 1857.

Editors' Table.

ETHNOLOGY OF CENTRAL AFRICA. —Facts new to most of our readers, illustrative of the physical and mental characteristics of the people of Central Africa, are presented in a small and quite an attractive volume, by the Rev. T. I. Bowen, entitled, "Adventures and Missionary Labors in Several Countries in the Interior of Africa, from 1849 to 1856." The work is issued from the Southern Baptist Publication Society, Charleston, S. C. An infusion of the blood of the Caucasian stock in that of the negro, prevails to a much greater extent, and dates from a remoter period than geographers and ethnologists have hitherto taught us. Mr. Bowen divides the people of Central Africa into three classes, viz., typical negroes, mulattoes, and black men with a European cast of countenance. Eastern and Southern Africa afford other varieties, of which we shall not speak at present.

1. The typical negro, as every one knows, is distinguished by his inferior organization. He has great endurance of fatigue, and of exposure to heat and moisture, and suffers less pain from blows, wounds, or surgical operations, than the white man. His intellect and especially his reasoning faculties are weak, his moral perceptions low, and his animal feelings strong. "He appears to be a stranger to modesty, doing and allowing things with brutal apathy, which other races cannot tolerate. I doubt whether any negro of this class has ever felt disgust, or ever will. They are naturally incapable of refined feelings."

2. Many of the people of the interior tribes, including the Pulohs, and a few of the Yarubas, Mandingoes, and Kroomen, are mulattoes, or the

progeny of a union of the white man and black races or typical negro, in various degrees and shades. In proof of this, Mr. Bowen adduces the following facts: 1. Their color varies from dark to very bright. Some of the Pulohs or Fellalahs cannot have more than one-eighth of negro blood, if we can judge from their color. 2. Their hair, though woolly, is long and bushy, like that of other mulattoes. Mr. B. has seen one woman nearly black, with soft silky hair. Some have a sandy tint of beard and hair, as if their ancestors were red-headed. The author saw one with bright blue eyes. Lander saw one on the Niger. 3. Their features, noses, lips, skull, &c., are cast more or less in the European mould. Their hands and feet are small and elegantly formed. 4. The language of the Pulohs, of which the author collected about three hundred phrases, containing one thousand words or more, is not African or Shemitic. 5. The Pulohs affirm that their ancestors were white. 6. And finally, we have evidence, mostly of more or less confidence, that the white and negro races have repeatedly come in contact, under circumstances which must have resulted in amalgamation. We shall not follow Mr. Bowen in his speculation on the origin of the negroes in Northern India, nor of their dispersion thence by three emigrations, the one into Eastern Asia, another into Southern India, and the Indian Archipelago, and the third and chief to the southwest, and over into Africa. Adopting this view, it is easy to believe "negroes were intermixed with whites long before they entered Africa, and that mulatto races may have existed in Sudan ever since it was peopled." To this it may be objected, that it is not conformable with ethnological experience to find the type of a race at the very border of the great circle or wide expanse of countries from which it originates, and no remains of it at the disputed original seat. We meet with no approach to the typical negro in Upper India. It is not so with the white or Caucasian stock, some of the finest specimens of which are seen in the mountainous regions, whence it is supposed to have sprung. We may find, it seems to us, an easier solution of the problem in the emigration of people of the white race from Northern Africa, and in the conquest, as is alleged by some of their native historians, of Sudan by the Saracens, in the tenth century. For ages past, Moor and Arab are met with in all parts of Africa, as traders, and as followers of Mahomet, teaching his dogmas, and winning over proselytes.

Two remarks worthy of repetition here, are made by the author. First, that the burning sun and dry air of the desert have not changed the color or the features of the whites who have been there three or four thousand years. Their children are still as white as any in the world. Secondly, the mulatto Pulohs must have been mulattoes centuries ago, and they have intermarried among themselves, "hybrids with hybrids," all the time; otherwise many of them would not still remain as bright-colored as Quadroons, or even brighter. But the Pulohs are physically and mentally a fine race. They show no symptoms of dying out.

The third of the classes above mentioned are black people with European features. This will not surprise those who have lived or travelled in our Southern States of the Union. They must have seen this style of features and a share of corresponding intelligence in the real negro, whose pedigree can be distinctly traced to his slave progenitor from Africa. At Ilorin, Mr. Bowen saw a few robust, handsome, heavily-bearded men, who are called "Bature Dudau," black white men. They differ from the Grecian-faced men, of whom he had spoken a few lines previously, in their being in every way more manly in appearance, and they bear the reputation of being more learned than any other men in the country. One of them, a most noble-looking man, "black but comely," was the chief Alufà, or Doctor of Divinity, in Ilorin. The home of these men appears to have been in Eastern Yoruba from time immemorial, though they are evidently another race. Mr. Bowen supposes that all classes of these black men with European features are the descendants of mulattoes and negroes, who retain the features of the former and the skin of the latter. A vast majority of negroes, both in Guinea and Sudan, belong to this class. In the last-mentioned country he estimates the mulatto population to be from ten to twenty millions. The true or typical negroes are the least numerous of the three, even if we include all the most degraded nations of Guinea. An encouraging prospect is offered in this ethnological view for the future civilization of Central Africa, the most populous and the most fertile division of the whole continent.

"It is not easy, if possible, to ascertain a people's mental powers before they have been developed by exercise, and exhibited in the various pursuits of civilized life. The Yorubas, Pulohs, &c., frequently have a good brain and temperament, in some cases decidedly fine. Very often the reflective faculties are equal to the perceptive, or superior. The Yoruba language is remarkably rich in abstract terms." "Very often there is both an abstract and a concrete noun from the same verbal root. The existence and constant use of terms for the expression of thought are certainly good evidence that the people think. The Yoruba language affords all the terms necessary for a full and clear declaration of the Gospel; as, for instance, a word for God, angel, heaven, hell, sin, guilt, atonement, mediation, repentance, faith, pardon, justification, sanctification, both objective and subjective; a distinct word for each, adoption, salvation, perdition, &c. The reason why they pay so much attention to preaching as constantly reported by the missionaries, is that they understand what the Gospel teaches." The government and laws furnish farther indications of the intellect of these people. But the reverse of the picture exhibits great deficiencies, such as their total want of invention of the commonest mechanical contrivances, even to the making of a crutch, although cripples are common enough. They are almost as deficient in science as the Hottentots, having no weights or uniform measures, and in short, no elementary science of any description. Different from the Yorubas, who display no talent for music, the Pulohs compose and sing fine and noble airs, which would be counted beautiful in any country.

Other interesting details follow respecting the character of the Yoruba people, whose country, we ought to have said before, lies to the west of Sudan, or between this latter and a strip of country whose shores are washed by the Atlantic. Mr. Bowen speaks highly of their natural kindness and gentleness; their polite and courteous demeanor in their intercourse with strangers and with each other; their honesty and truthfulness, and forgiving disposition; their reverential regard for their parents and rulers, and the chastity of their women. But on the other hand we are told, and it is not easy for us to reconcile such contradictions in individual or national character, of their want of conscience, or a sensitive regard for what is right, They lack modesty, and are covetous. although in this particular, the author admits that they have their equals among the whites, and even among too many members and teachers in the churches of civilized countries. Social life in Yoruba is pleasantly described by Mr. Bowen, but we should be travelling from the record were we to follow him any longer. There is a chapter preceding that from which we have borrowed, on the seasons, weather, and diseases of the natives, and of missionaries and other strangers in the Yoruba country, which is germain to our wants, and of which we may be tempted ere long to make use.

THE GREAT TOBACCO QUESTION.—IS SMOKING INJURIOUS TO HEALTH?—The London Lancet has opened its columns to a free discussion of the effects produced by the smoking of tobacco on the animal economy. As usual, in all debateable questions, with much pertinent there is a good share of irrelevant matter introduced by the writers in the Lancet, who argue for or against tobacco smoking. The advocates for the use of this weed, say, that no adverse inferences ought to be drawn from the effects of its excessive use or abuse; and they claim for it, at the same time, a soothing and gratefully sedative influence, not incompatible with the preservation of health. On the other side, it is contended that the habitual use of so active and deadly a poison as tobacco is known to be—so deadly, in fact, that there is always danger, and there have been not a few cases of death from its employment in surgery—must necessarily be an abuse. In certain temperaments and constitutions, smoking in any degree is pernicious, and in such cases the use must necessarily be an abuse.

It is not our purpose at this time to argue the question under its several heads—hygienic, therapeutical, pathological, and economic. We shall wait until it has been exhausted in the Lancet, and then make a summary of the leading facts on both sides, unless our London contemporary should perform this office for the benefit of its own readers, and thus anticipate our decision in the matter.

THE OPIUM TRADE.—We find it stated in a late periodical, that the revenue derived by the East India Company from opium, in the year 1854–5, was equal to fifteen millions and a half of dollars. This amount is mainly derived from the monopoly enjoyed by the Company in the cultivation and exportation of opium to China, to the people of whom the English present themselves as venders of this deleterious drug, and as in fact poisoners on a grand scale. We have not at hand an estimate of the quantity actually consumed, and the money paid by the Chinese, with such disastrous effects on the health and morals of millions of that people; but the amount, in both instances, must be great when the revenue from it comes up to such a sum as that above mentioned. One of the results of the last war with China, and apparently the chief one contemplated, was to compel the government at Pekin to allow of this wholesale poisoning, which it had previously done all in its power to resist, by prohibiting the importation of opium under heavy penalties. Will the present hostilities at Canton, and destruction of that city, be attended with the effect of still farther favoring the opium trade between China and India? We might ask, also: how many English missionaries and how many Chinese converts to Christianity will make an offset to the demoralization and diseases produced by the English government and English traders by the opium which they have forced into such extensive use in the Chinese empire?

SPANISH MEDICINE.—There are now lying before us some numbers of a journal entitled *La Espana Medica*, or "Medical Spain," being the official periodical of the Madrid Chirurgical Academy, edited by Doctor D. Andres del Busto y Lopez. Let us run over the titles of the several departments in one number, that of January 10th, 1857. First, we meet with "*Governmental Medicine*," under which head, Dr. A. del Busto has written a flowery article on the Social Position of the Medical Classes, asking very pertinently why should not physicians, whose preliminary education, intelligence, difficult, extended, and laborious studies and attainments, place them at least on an equality with the members of any other profession or calling, enjoy consideration in the public eye, and be the recipient of honors and rewards, as well as the soldier, the lawyer, or the literati in other departments? Why, in the disposal of public offices, do we not find a physician placed on a line with other individuals? Why should men with the honors of the professorate have less salaries than those who belong to the magistracy? Why should a sanitary director not enjoy equal consideration and regard with a director in military matters, or of other special divisions of public labor?

We give the questions of the Spanish Doctor without attempting ourselves to furnish the answers, which we leave to our readers to fill up for themselves. There is yet another question often asked by our medical brethren in Great Britain and Ireland. Why is it, after a long and laborious struggle with old prejudices and official opposition, in which medical men have taken the largest and most efficient share, and when a sanitary commission of inquiry is appointed, or a sanitary commissioner is made, and a good salary settled on him, that medical men are overlooked in favor of those who are not in the profession, and whose studies, if they ever did study at all, and occupations had been quite foreign from subjects of hygiene and medicine?

Under the next head, "*Medical Miscellany*," there is a continuation of an original article entitled, Brief Considerations on Pain, in a Surgical Point of View, with conclusions, being the results of experiments on this point made by the author, Dr. Ramon Otero, and his colleagues, Valle and Andrey, during their courses in the Faculty of Medicine at Santiago, in the years 1854 and 1855. The use of anæsthetics is discussed at the same time in this paper. Then follows a *Review of Schools*, in which Dr. A. del Busto, after pointing out the fine arrangement of the anatomical amphitheatres of the Faculty of Medicine of Madrid, and the facilities afforded for dissection by a suitable supply of subjects, suggests some improvements: First, a milder temperature in the dissecting rooms, so that students shall not be obliged to drop their scalpels on account of the extreme cold; secondly, a supply of better instruments for dissection, and microscopes always at hand, so as to give the student at any moment an opportunity for examining an organ or tissue, and thus to accustom him to methodical examination by the microscope; and finally, to put on the footing of practical studies, histology, microscopic anatomy, and pathology (meaning most probably morbid anatomy); and that the students of four years' standing shall cultivate more than they do surgical anatomy; engage in some dissections of subjects of the four divisions of the animal kingdom established by Cuvier; and thus be led to unite the study of comparative with that of human anatomy. Could we ask for more than this in young and progressive America?

The third division in the journal is the "*Clinical Section*," in which is a paper on Intermittent Fever, as it occurred in Villameulas, in 1856, by D. José Joaquim Culebras y Morales. In vernal intermittents, the author has seen good effects from the use of three or four slices of lemon sprinkled with sugar. Sometimes yielding to the wishes of the patients, who were afraid of the expense of drugs, or disliked the taste of them, the author prescribed infusion of coffee laced with a little brandy. Intermittents in the hot season required prompter and more efficacious treatment. Bloodletting, both general and local, was called for in many cases, both to allay gastric irritation and to mitigate congestion or hyperæmia of different viscera. In autumnal intermittents, it was often necessary to have prompt recourse to febrifuges, and especially to the sulphate of quinine. It was prescribed at the coming on of the first fit, in order to cut short the disease, and to prevent the pernicious nature of subsequent paroxysms. The quinine was given to the extent of 10 to 12 grains, in pills or solution, and divided into three doses, in the day; sometimes the quantity was increased to a scruple. The writer complains of the vulgar error in which some of those who were cured by the quinine indulged; viz., in their attributing to the medicine, aches and swellings, which were, in reality, due to the fever itself. In cases marked by much irritability, or in which inflammatory symptoms were present, opium or extract of belladonna and tartaric acid were associated with the quinine. The cost of this article, and the liability to the abuse of arsenical preparations, induced the author to make trial of several succedanea to quinine, which we need not enumerate here; and which were little satisfactory in his hands.

The paper is terminated by some questions, and partial replies to them, touching the greater frequency and violence of intermittent fevers during late years than formerly, in that quarter. The author thinks that an explanation may be found in the greater quantity of rain that fell, and the excessive heats; the first causing an overflow of extensive grounds, and the second an evaporation and partial desiccation with a large evolution of miasmata, the effects of which, on the people of that region, might have been increased by the greater susceptibility induced by the general alarm and dread of the cholera, that had prevailed epidemically. This is certainly an addition to the etiology of intermittent fever, as far as relates to predisposing causes.

The division which follows that just noticed, is "*Forensic Medicine.*" It is occupied by a record of the case of a man, who, in a night affray, received an incised and penetrating wound, half an inch in length and two lines in width, in the left groin, on a level with the left branch of the pubis. The details are reported with great minuteness, by D. Jose Cano y Barat, who was assisted throughout by a medico-chirurgical gentleman, acting by authority in that district. Uncertain of the result, and foreseeing that the case might come before a law tribunal, if the wound proved mortal, they asked of the court to be allowed the additional counsel of two other practitioners. The questions for the consultation to determine were, first, of diagnosis, and second, of treatment. There was hemorrhage, which, by a jet per saltum corresponding with the beat at the wrist, when the wound was a little opened so as to allow of the unobstructed discharge of blood, they were assured came from a wounded artery, and most probably the epigastric. There was also a soft shining tumor, imperfectly pyriform, which they considered to be hernia, caused by the protrusion of a portion of intestine, in consequence of its exposure by the wound, and the opening of the fasciæ, which had hitherto retained it in its proper place. The practical questions were: whether they would take up the artery, and reduce the hernia, or leave the wound to heal, by a natural process, while they would endeavor to keep down consecutive inflammation. As regards the first question, the diminished flow of blood after a short time, so that the life of the patient was in no danger from hemorrhage, induced them to forego any attempt at applying a ligature, and incur the risk of unavoidable irritation, if not of enlarging the wound at the same time. It was also determined to let the hernia remain untouched, without any efforts at reduction; and to limit the treatment of the wound to the employment of simple means. Rising inflammation of the affected tissues was to be opposed by the application of two dozen of leeches around the wound, which was dressed with simple cerate, and over this anodyne emollient cataplasms. Entire abstinence from food was also enjoined. The lymphatico-nervous temperament of the patient forbade the use of the lancet. Redness, swelling, and pain prevailed in the groin, along the course of the spermatic cord, and in the corresponding iliac fossa; and the inflammation extended also to the hypogastric and umbilical regions of the left side, even to the hypochondrium, accompanied with traumatic fever, headache, great prostration, &c. This collection of symptoms was thought to prognosticate suppuration, and consequently the presence of diffused phlegmon. The indications were to detract more blood by free leeching, which was practised four times, while emollients were continued to the wound, and the bowels relieved by enemata, with the farther good effect of diminishing the distention of the abdomen. Such was the treatment pursued for four days; on the eighth, pus began to flow freely from the wound; and this was favored by methodical pressure on the parts contiguous. By the sixteenth day, the purulent discharge had ceased, and the hernia also disappeared spontaneously. Cerate to the wound and methodical compression by layers of lint, graduated compresses, and rollers round the body, together with a suspensory bandage to support the scrotum, were now put into requisition; and a nutritive diet was allowed to the patient. The closing of the wound was accompanied by the formation of some proud flesh, which was removed by touching it with the nitrate of silver.

Contrary to our purpose when we first began a notice of this case, we have been led to repeat most of the details given by the narrator, with a view, as we advanced, of presenting to our readers a specimen of Spanish cautious and conservative surgery, and yet not inactive therapeutics. The entire treatment, and the reasons assigned for it, are creditable to the parties in Spain; and convey to us at home a good lesson, and one worthy of consideration in similar emergencies.

The bearing of this case on Forensic Medicine is not at first very clear; but D. Cano y Barat establishes the connection by a series of queries, which follow those on its surgical bearings. He asks: Ought we to give a certificate of health, notwithstanding the state of feebleness which prevented the wounded man from going to work? Ought we to wait until he had entirely recovered his strength, without regard to the greater or less punishment for a day or for an hour, which might be inflicted on his assailant? Finally, as the Health Law is not put in execution, as the judicial body is not endowed with forensic faculties, from whom are we to claim our honorarium, although by the same law we are obliged to perform the duty in defect of such faculties? From what funds are we to be paid? How shall we be sure of our bread?

We lose much of the point of these questions, from our not knowing what is the Spanish penal law; but we glean enough to learn that the medical mind in the Peninsula is fully alive to the just requirements of our profession, in its relations to the officers and courts of law, when its members are charged either directly or impliedly with the performance of official duties *pro hc vice.*

The next department in *La Espana Medica* is a "*Universal or General Review of the Medical Press.*" The first part consists of a synopsis (not merely extracts) of articles in the Spanish medical journals, with the titles of some of which we are thus made acquainted. The first is from "The Medical Age" (*El Siglo Medico*), and its theme, "Is Phthisis Contagious?" The author of the article, Sr. Mendez Alvaro, advocates the affirmative side of the question. We have not room to follow him in his arguments and authorities, but merely repeat the precautions which he lays down on the occasion. They are, 1. To employ as assistants or nurses to the consumptive, those persons who are not members of his family, who are not predisposed to the disease, nor of the age in which its ravages are the greatest. 2. To lodge the consumptive in spacious and well-ventilated houses. 3. Not to allow any person to sleep in the same bed with him. 4. To arrange it so that there shall be alternate sets of nurses, and that no one of them shall be long exposed to emanations from the consumptive patient. 5. No other person to have his wearing apparel, nor to make use of his chamber utensils or close stool. 6. To whitewash the rooms after death, and to have recourse to the well-known means of purification.

Without adopting the opinion of the contagiousness of phthisis pulmonalis, the superintendents of hospitals for the consumptive, to which, by the way, there are strong objections, may take some useful hints from the above precautionary directions.

The other Spanish medical journals noticed in this department of the Espana are the Medico-Chirurgical Courier, and the Medical Union of Aragon (*El Correo Medico-Quirurgico*, and *La Union de Aragon*). In subsequent numbers we find mention made of *La Cronica de los Hospitales; El Semmanario, Medico Espanal, El Eco de los Cirujanos.*

After the synopsis of home journals, follows a similar synopsis of articles from foreign journals—English and French.

The last two departments are the "Official Section," and "Medical Chronicle," which latter includes an announcement of "Vacancies" of the office of attendant surgeon or medico-chirurgeon in certain places, with a specification of salary and probable income.

On a future occasion we may be tempted to take farther notice of Spanish medical journalism, which displays more vitality and energy than a knowledge of the political, commercial, and manufacturing state of Spain would lead us to suspect. The *Espana Medica* is published in a sheet of eight pages quarto, every five days in the month, making six issues in this period, or seventy-two in the course of a year, being 576 pages, equal to 1500 of our octavo pages, and at a subscription price of 40 rials currency, or two dollars per annum.

USE OF OTHER MEN'S BRAINS.—Prof. Blackman, the able editor of the Western Lancet, has, in the last number of that periodical, given Dr. Joshua B. Flint, Prof. of Surgery in the University of Louisville, a severe castigation for the very liberal use which he, the said Dr. Joshua B. Flint, made in his introductory lecture, delivered last November, at the Louisville Marine Hospital, of certain sentences and paragraphs, without acknowledging the source from which they were derived. We annex, as a specimen of this wholesale appropriation, the following paragraphs of Prof. Blackman's notice, only adding that Dr. Flint has always prided himself upon being one of the *original* minds of the country, and of belonging to the class of Physicks and Dudleys, and some other illustrious men who never write much, but who, when they do write, write for posterity.

"At p. 21 of the *Introductory*, we find the following, which the reader, not acquainted with Pinel's article in the 5th vol. of the *Dict. des Sciences Medicales* (in 60 vols.), would not for a moment suppose to be but a literal translation:

PINEL.

'Les hôpitaux, á leur origine, servirent plus à satisfaire la bienfaisance pieuse des chrétiens, qu'à perfectionner la médecine, et les études eurent lieu comme aux époques précédentes. L'école d'Alexandrie etait si célèbre alors, qu'Amien Marcellin dit que sa fréquentation assidue donnait toutes sortes de droits à l'exercice de la médecine. Une autre ancienne école moins connue que celle d'Alexandrie, et cependant très-florisante, fut celle de Nisapour en Perse, et on doit remarquer que les hôpitaux s'y trouvaient rapprochés des écoles de médecine, avant le temps des Arabes, auxquels on attribue ordinairement l'honneur de cette heureuse idée. Fondée par l'empereur Aurélien, cette école fut composée de médecins grecs qui firent revivre la médecine d'Hippocrate dans tout l'Orient; elle subsista plusieurs siècles; et ce fut là, sans doute, que se formèrent Rhazès, Alli-Abbas, Avicenne et les Arabes les plus celèbres. Cette école, qui était chrétienne, était voisne d'un hôpital.'—*Dict. vol. 5th, p.* 365.

FLINT.

'It is certain that hospitals, at the time of their origin, served rather to satisfy the benevolence of Christians than to contribute to the improvement of medicine. The studies employed for this purpose were carried on much as in preceding periods. The school of Alexandria was then so celebrated, that Marcellin assures us, that to have studied there, was enough to secure all the rights and advantages pertaining to the practice of medicine, although it does not appear that anything like clinical studies formed any part of the education of its alumni. There was also at Nisapur, in Persia, another school of medicine, less famous than that at Alexandria, but nevertheless a very flourishing institution. There was established a hospital, attached to a school of medicine, before the time of the Arabian masters, to whom has generally been attributed the honor of that happy idea.

'Founded in 272 by Aurelian, that school was composed of Greek physicians, whose efforts restored the medicine of Hippocrates throughout the East. It continued through many ages, and was, without doubt, the place where were educated Rhazes, Avicenna, and the most celebrated Arabians who were reared in the eastern part of Asia. That school, which was Christian, had near it a hospital.'"—*Introductory, p.* 21.

SUICIDAL MONOMANIA.—Psychology, connected with and deducible from physiology, is beginning to be better understood, and to take its proper place in general literature, and especially in biography and history. We may adduce among other instances the following observations by Mr. Masson, Professor of English Literature in University College, London, in his "Life of Chatterton." The author had just before been speaking of young Chatterton's conscious sense of great injustice in passing off his own effusions as those of the Monk Rowley of the fifteenth century, whose manuscripts, forged by Chatterton himself, the latter professed to have discovered.

"After all, however, the most material fact in the case remains to be told. Physical causes were at work. Bereft of the amount of actual food, and of other comforts, necessary even with his abstemious habits, to keep body and soul healthily together; wandering about London in a perpetual state of fever and excitement; returning home to write night after night—without rest or sleep—little wonder if he had overstrained his physical capabilities, and if brain and nerve began to fail in their office. Whatever taint of hereditary insanity was in him, derived from the old line of sextons who had jingled in past generations, the keys of St. Mary's Church in Bristol, and walked at midnight through its aisles, and dug the graves of its parishioners, or derived more immediately, from that drunken wild-eyed father, whom he had never seen, but who used to tell his tavern-companions that he believed in Cornelius Agrippa, the necromancer; it had now, at last, come out in a way not to be mistaken. From his childhood there had been symptoms of it; his fits of weeping; his sudden paroxysms of passion; his long reveries, when he gazed at people, without seeming to see them; his frequent mutterings aloud. Not till now, however, had these traits passed the limits of what could be considered compatible with sanity. But now, almost certainly, these limits were passed. Noticing the strange haggard lad, walking about the streets, muttering, perhaps, to himself, or making sudden gestures, or looking at what was passing sometimes vacantly, and sometimes with glances unusually keen and bright; even strangers could not but follow him with their eyes, and wonder who he was, and where he came from. Had the stranger been one accustomed to the ways of the insane, he would, probably, at once have pronounced that his brain was affected. And had the stranger been able, with this idea in his mind, to pursue his inquiries farther, so as to ascertain what peculiar form or species of insanity had taken possession of him, he would have found that it was that which physicians recognize as the suicidal tendency. Physicians, as all know, do recognize this as a form of madness; and though they allow, that a perfectly sane man may commit suicide after deliberately reasoning on the point, they attribute a large proportion of the suicides to the action of a certain specific impulse which reason cannot overcome. In Chatterton's case, as we have seen, there had been premonitory appearances of the existence of this tendency. The idea of suicide had from the first been familiar to him."

Our commiseration for the untimely end of this unfortunate youth must not, however, blind us to the false pride and waywardness of his nature, which, more than actual necessity, subjected him to the gnawings of hunger, and combined with the latter to derange a morbidly sensitive brain, and drive its possessor to self-destruction. The act of the suicide may be the result of a fit of temporary insanity, but no palliation of this nature ought to be adduced for the often habitually wicked disregard of moral and natural laws, and the voluntary nursing a belief in the venial nature of the crime of self-murder, if not in the actual right that a man has thus to dispose of himself. The judgment warped by such wretched sophistry, any slight annoyance, whether of bodily pain, mental excitation, or disappointment, will serve as an excuse for the commission of suicide. Chatterton wanted "the resources to be found in rectitude and gentleness of a mere worldly character." Religion he had none. Professor Masson, in reference to the state of destitution to which the young poet was reduced in London, where he had gone with the hopes of bettering his fortune, makes the following judicious remarks. They contain a lesson good for all times:

"Quiet, plain scholars have lived, before now, in German or in Scotch university towns, on boiled peas-cods for months, on a single guinea a quarter, earned by teaching, without saying much about it. Had youths of this type been in Chatterton's place in London, in August, 1770, they would most probably have survived the crisis. They would have availed themselves gratefully, and yet honestly, of such small immediate aid as those aunts and other relatives, that we hear of so slightly in Chatterton's letters (one of them, a carpenter, who had married one of his aunts) might, perhaps, though poor, have willingly offered at the sharpest moment of the emergency; and even failing that, they would have conquered by sheer patience. How was it then in Chatterton's case, 'the comforts of Christianity' being placed out of the question?"

Voices Differing with Localities.—Experience, says Fetis, has demonstrated that voices, like vineyards, are, in general, distributed in France, by districts. Picardy furnishes finer basses and in greater number than any other province; and almost all the fine basses, which have shone at the opera, and in the other musical establishments, were from that province. Tenors, and particularly those which are called *high-counters*, or counter-tenors, are to be met with in greater number in Languedoc, and especially in Toulouse and its environs, than in any other part of France. The voices of this kind in that country are of singular beauty, and the chance of preserving them after the change, is much more favorable than elsewhere. Lastly, in Burgundy and Franche-Comté, the female voices have more extent and a purer quality than in all the other provinces.

THE DARK SIDE OF WAR.—Colonel Tulloch, one of the two members of the Crimean Board of Inquiry (the other is Sir John McNeill), in a pamphlet recently published, states that the loss from sickness alone, during the winter of 1854–5, in the Crimean army (including what took place at Scutari and during the passage), amounted to thirty-nine per cent. in the infantry, and in eight corps actually amounted to seventy-three per cent.; this being exclusive of men killed in action, or who died of their wounds. By way of contrast it may be mentioned, that, in the naval brigade, which took a prominent part throughout the whole siege, the deaths from sickness were under four per cent. This terrible mortality was four times greater than that which occurred during the Walcheren campaign, whose horrors aroused the indignation of the country, and produced a perfect storm in the Senate. Colonel Tulloch, in eloquent language, points out the causes of this heartless loss of lives: "It was," he says, "no foeman's hand, no blast of pestilence, but from the slow though sure operation of diseases, produced by means, most of which appeared capable, at least, of mitigation."

ARTIFICIAL VICHY WATER.—One of the most celebrated and frequented mineral springs in France, is that of Vichy, the waters of which, with one exception, are thermal; their range of temperature being from 80° F. to 114° F. The visitor to the springs uses the water both as a bath and for drink. There is a large consumption of it in Paris and other parts of the empire, in which case it of course has the temperature of common water. Not only the natural, but also the artificial mineral water of Vichy is largely drunk at a distance from the springs.

The Vichy water, varying somewhat in strength at the different springs, is remarkable for the large proportion of bicarbonate of soda which it holds in solution. It contains, also, but in small quantity, the carbonates of lime and magnesia, sulphate of soda, peroxide of iron and silex, and the organic product, baregine. The curative powers of the Vichy water are highly extolled in gout and in a great variety of chronic diseases, including those of the liver and spleen, and a deranged and weakened state of the digestive organs; also in scrofula, leucorrhœa, irregular menstruation, and engorgements of the uterus, without acute inflammation, ulceration, and cancerous degeneration of this organ. It exerts remarkably beneficial effects in the lithic acid diathesis, and in calculous formations of the lithic acid variety, including red-sand deposits in the urine.

The artificial Vichy mineral water, prepared after the formula of Souberain, may be used under all the circumstances in which the natural mineral water has been found serviceable. We can speak from personal experience of its efficacy in renal disorder of the lithic acid variety, as well as in cases of chronic dyspepsia, in which cardialgia is a predominant symptom. It has no uniformly aperient operation; but sometimes we have found it to act on the bowels, and more particularly when taken warm on an empty stomach.

We are glad to learn that Mr. Frederick Brown, the well-known pharmaceutist, has begun to manufacture the artificial Vichy water; and we do not doubt that, ere long, there will be a great demand for it. Charged as it is so highly with carbonic acid, this water makes an agreeable beverage; or at least to our taste, is barely distinguishable from the ordinary mineral (carbonated) water of the shops.

But while the Vichy mineral water, both natural and artificial, is adapted to the cure or relief of a large circle of diseases, we must not omit to caution against its use in febrile and inflammatory states of the system, and in irritable temperaments; also in cases of plethora with determination to the head, organic affections of the heart, phthisis, and hæmoptysis.

The quantity to be drunk varies from two to four tumblerfuls, or from one to two pints, taken in succession, before breakfast; or divided so that one-half is used early in the morning, and the other at noon, or an hour or two before dinner. In cases of labored digestion with heartburn, half a tumblerful taken an hour or so after a meal gives great relief. When fears are entertained that the stomach, especially in its empty state, will not bear a cold drink, the water may be warmed by immersing the bottle containing it in warm or hot water, so as to make it resemble more nearly that of the springs itself. The first effect of the Vichy water is exciting, and, for the first few days of using it in full quantity, it sometimes gives rise to a sense of fulness with headache and languor; a common effect of most mineral waters of any activity, in the early stage of their administration.

After the celebrated *coup d'etat*, which established the position of the present ruler of France, not a word was allowed to transpire in the French Medical Journals respecting the fate or treatment of the wounded. Not a case was related, not a clinical observation made; and as far as could be learned from these journals, such an event, even as regarded its scientific teachings, never occurred; although respecting former outbreaks, no such silence had ever been observed. Matters do not seem to be much better now, the Medical Journals being subjected to the same interdict as the political ones; for instance, of not discussing the mental state of Verger, the assassin of the Archbishop. The editor of the Moniteur des Hôpitaux, after having in a previous number stated his intention of discussing at full the reasons which, in his mind, proved Verger to be insane, has been obliged in a subsequent one to announce that he is under the necessity of abandoning this project.—*Times and Gazette.*

ESCULAPIUS THE SON OF APOLLO.—It is said that the great Boerhaave was more proud of his success as a flutist than of his scientific glories. Haller, the universal genius, was an accomplished musician, and delighted in taking his part on the violoncello. Orfila, in place of becoming the founder of modern toxicology, had well-nigh turned his magnificent baritone voice to profit on the stage. M. Bataille, one of the most admired of the singers at the *Opera Comique*, is a doctor of medicine; and a young *agrégé* of great promise, and possessed of a beautiful tenor voice, has deserted the Academies of Science for that of music. Quite lately too a Mr. Hans, a young man of twenty-one years of age, has made a promising *début* in Lablache's character in Norma, at the *Theatre Italien*, and is engaged for the next season in London. He is the son of the celebrated Rokitansky, of Vienna.—*Ibid.*

We have received reports of the graduating classes of the following medical schools:

Jefferson Medical College, . .	212
University of Pennsylvania, .	149
University of Nashville, . .	137
University of New York, . .	120
Pennsylvania College, . .	58
University of Louisville, . .	50
St. Louis Med. College, . .	44
College of Physicians and Surgeons, New York, . . .	37
Miami Medical College, . .	31
Medical College of Ohio, . .	31
Missouri Medical College, . .	31
Starling Medical College, . .	18
Massachusetts Medical College, .	17

Dr. J. C. Nott has been appointed visiting physician to the United States Marine Hospital, at Mobile, and Dr. C. Z. Blaney to the one at Chicago.

At the first meeting of the Mississippi State Medical Society, held recently at Jackson, Dr. W. Y. Gadbury, one of our much valued collaborators, was honored with the presidency.

In consequence of other engagements, Dr. Goadby has dissolved his connection with the Medical Independent, a Monthly Review of Medicine and Surgery, and Journal of Microscopical Science, published at Detroit, Mich.

WHAT CAN THE MATTER BE?—We observe with great pleasure that not one of the republications of English medical books that have been laid on our table during the past few months, has been *honored* with an American editor—or, at least, the name of such does not appear. The titles of these works may be found on our last page.

Dr. Samuel Long, of Springfield, Ill., reports, in the March number of the Northwestern Medical Journal, a case of ovariotomy, from which the patient entirely recovered in three weeks, without a single untoward symptom.

The work on Caloric, by the late Dr. Samuel Metcalfe, of this city, formerly of Kentucky, published a number of years ago, by Pickering, of London, where it created quite a sensation at the time, is in course of republication, by J. B. Lippincott & Co., of this city.

WELL-DESERVED COMPLIMENT.—At the close of the commencement exercises of the St. Louis Medical College, the graduating class presented to the Faculty of the institution a portrait of Prof. Chas. A. Pope. Dr. Chas. W. Parsons, of Kentucky, represented the class in some pertinent remarks, and was responded to by Prof. J. B. Johnson, on the part of the Faculty.

We would call the attention of the profession to the Quarantine Convention, that is to meet in this city on the 13th of May.

The late vicar of Sheffield, the Rev. Dr. Sutton, once said to the late Mr. Peech, a Veterinary Surgeon: "Mr. Peech, how is it that you have not called upon me for your account?" "Oh," said Mr. Peech, "I never ask a *gentleman* for money." "Indeed," said the vicar, "then how do you get on if he don't pay?" "Why," replied Mr. Peech, "after a certain time I conclude that he is *not* a gentleman, and then I ask him!"—*Times & Gazette.*

NECROLOGY.

THE LATE DR. SAMUEL METCALFE.—The death of this distinguished medical philosopher merits more than a brief notice in our columns, and we greatly regret that we cannot enter more fully into the details of his life.

Dr. Metcalfe was born in Frederick County, Virginia, Sept. 21st, 1798, but his parents removed to Kentucky during his childhood, where he spent the first years of his life. Of an ardent temperament, with high aspirations, and an intense desire to distinguish himself, his thoughts and inclinations turned to a medical life; and before he obtained the wish of his heart, he had to surmount many difficulties and obstacles.

Immediately after receiving his diploma, he went to Mississippi, where he practised with success.

Whilst engaged in practice, he had his attention directed to the subject of *Caloric* as the *Vital Principle;* a theory which took firm possession of his mind; and for the more perfect study of which, he left his native country, in 1836, in order to avail himself of the resources offered to the student by the English libraries.

Before leaving, he published a volume on Terrestrial Magnetism, inscribed to Joseph Delafield, Esq., then President of the New York Lyceum of Natural History. He also contributed largely to the Knickerbocker Magazine.

He was elected to the professorship of chemistry in the Transylvania University, which his prolonged absence obliged him to resign. His work on Caloric was first published in London, in 1843, by William Pickering, and excited considerable attention amongst medical and scientific men.

About this time the Gregorian chair in the University of Edinburgh was vacated, and it was intimated to Dr. Metcalfe, that if he would become a candidate, his election was certain; but here, as on other occasions, his great modesty prevented him from seeking a situation which would, doubtless, have secured him a high position in the scientific world as a teacher.

His health failing in consequence of his unremitting mental toil, he returned to his native country, in 1845, and shortly afterwards was offered a professorship in a Southern college. But his thoughts were absorbed in his work, which he intended to republish in this country, and for which he had actually made arrangements with a publishing house in Philadelphia.

From that time up to the period of his decease, he continued working and working at his favorite theory, until his always delicate and overtasked constitution entirely gave way. He died completely exhausted on July 17th, 1856; the sad event being undoubtedly hastened by an inflammation of the lungs, he had contracted in the previous March, and from which he rallied with difficulty.

Dr. Metcalfe was a man of excellent acquirements, and an enthusiast in science, especially on the subject of Caloric.

It is much to be regretted that he possessed, in an uncommon degree, that sensitiveness which so frequently accompanies superior mental qualities. His delicate organization shrank from collision with the world, and was thus the bar to his own advancement in life.

Shut up in his study, Dr. Metcalfe endeavored to elaborate that theory which, he believed, would one day revolutionize medical science. His untimely decease did not permit its completion, and thus frustrated what had been the hope of his life. He died a martyr to his love of Natural Philosophy.

Died, at Wheeling, Va., March 27th, 1857, S. P. Hullihen, M.D., aged forty-six years. Dr. Hullihen was a graduate of Washington Medical College, of Baltimore, and early in professional life devoted himself to the specialty of Surgery, in which he reached great distinction. He chiefly confined his practice to minor surgery, including the operations of the dentist, the oculist, and general surgery of the head. In these his fame and popularity had extended far beyond Wheeling, and his death is felt to be a public calamity in the whole section of country where his usefulness has made him beloved.

The death of Dr. Hullihen will be a great loss, especially to the profession of the dentist, in which he was eminent, and in which he had made important discoveries and inventions. But justice cannot be done now to his fame or his virtues, and we hope to furnish a more worthy and extended notice of him in a future number.

At Havana, on the 16th of February, Elisha Kent Kane, M.D., in the 37th year of his age. Dr. Kane was the eldest son of Judge John K. Kane, of this city. He received his classical education at the University of Pennsylvania, and graduated in its medical department, in the spring of 1843. Prior to his graduation, he served for some months as one of the resident physicians to the Blockley Hospital, at which time he made some researches on the subject of Kiestine, which formed the subject of his inaugural thesis, and being afterwards published, gained him no little reputation. Having received his degree, he entered the navy as assistant surgeon, and in this position he has won a world-wide distinction as a heroic and scientific explorer.

Dr. Joseph Gerrard Nancrede.—By the recent death of this gentleman, a void has been made in the ranks of the medical profession in Philadelphia. One of its most intelligent and best educated members,—he gave himself up with zeal, assiduity, and success to the discharge of its various and trying duties, for the long period of nearly forty-four years. During this time he bore himself well and honorably, without show or boast, winning and retaining the respect of his fellow-practitioners, and the confidence and love of a large circle of patients of all classes, who found in him a union of kindness with skill, a sympathizing friend and a discriminating physician.

Doctor Nancrede was a native of Boston. His father was a Frenchman, an officer under Rochambeau, and a friend of Lafayette in the war of our independence, for his gallantry and good conduct in which, he was, we are told, honored with a favorable notice by Washington himself. The family could boast of its quarterings of nobility, by its descent from a Gerrard, an Englishman, who entered the French army in the reign of Charles VII, and afterwards, by the acquisition of an estate, took the name of

Nancrede. The subject of our present notice, Joseph G., was sent, in his boyhood, to a Catholic seminary, at Montreal, where he formed an intimacy with young Papineau, who afterwards played so conspicuous a part in Canadian politics, and with whom he kept up a friendly intercourse through life. Thence he went to Paris, in which city he received his collegiate education, and prosecuted his medical studies. His father, at this time, resided in St. Germain.

On his return to his native country, young Nancrede attended the lectures in the medical department of the University of Pennsylvania, and obtained the honors of the doctorate in the year 1813. Thus qualified, he began to practise his profession in Louisville, Kentucky, but soon returned to Philadelphia, where he spent the remainder of his life. In 1822 Doctor Nancrede married a daughter of Commodore Truxton, whose demise preceded his own by eight years. In the death of this estimable and intelligent lady, her husband received a shock, from the effects of which he never recovered. In fact, we may trace to this event, and its subsequent depressing influence, the diseases under which Dr. Nancrede himself sank. The more obvious malady, phthisis pulmonalis, was associated with a less clearly determined, though still evident disorder of the circulatory apparatus, which, for some months before his death, prevented him from taking exercise on foot, or even walking a short distance without a feeling of exhaustion, and labored respiration. He was scarcely troubled with cough, had little expectoration, and no hectic fever, or night sweats.

Doctor Nancrede, notwithstanding his fitness, by suitable attainments and experience, and a good style of writing, did not often appear as an author. At a very early date, he was associated with his elder brother, Dr. Nicholas C. Nancrede, in bringing out a translation of Legallois' Experiments on the Principles of Life, &c. He afterwards made a translation and abridgment of Orfila's work on Toxicology. He wrote occasional papers for the medical journals: of these, one was on Mania a Potu, in the first volume of the Medical Recorder; another was, An Account of the Doctrine of Fevers, by Broussais, in the eighth volume of Chapman's Philadelphia Journal. In the fourteenth volume of this work appeared his Memoir of Dr. Mongez; and in the sixteenth volume of the American Journal of Medical Sciences, Observations on a Case of Cæsarean Operation, occurring in his own practice, in which both mother and child were preserved. He was instrumental in procuring the first use to be made here of Monœsia. He was also active in causing trials to be made of the sphygmometer, and translated an account of its use and application.

Dr. Nancrede died on the 2d of February, 1857, in the 64th year of his age. He died as he had lived, in the communion of the Roman Catholic Church. Among the pall-bearers at his funeral, was his old friend Mr. Papineau, who, with his family was spending the winter in Philadelphia. Dr. Nancrede, in default of issue, left his adopted son, Dr. Sam. J. G. Nancrede, the heir to his estate. This gentleman is the nephew of Mrs. Nancrede.

Bi-Monthly Bibliographical Record.

AMERICAN.

Statistical Report on the Sickness and Mortality in the Army of the United States, embracing a Period of Sixteen Years, from Jan., 1839, to Jan., 1855. Prepared under the direction of Brevet Brigadier General Thomas Lawson, Surgeon-General U. S. Army. By Richard H. Coolidge, M. D., Assistant Surgeon U. S. Army. 4to., pp. 690. Washington, 1856. (Received from the Author.)

Hints on the Medical Examination of Recruits for the Army, and on the Discharge of Soldiers from the Service on Surgeon's Certificate. Adapted to the Service of the United States. By Thomas Henderson, M. D., Assistant Surgeon U. S. Army. A New edition. Revised by R. H. Coolidge, M.D., Assist.-Surgeon U. S. Army. Philadelphia, J. B. Lippincott & Co., 1856. (Received from the Publishers.)

The Physician's Pocket Dose and Symptom Book. By Joseph H. Wythes, A. M., M. D., second edition. Lindsay & Blakiston, Philadelphia, 1857. (Received from the Publishers.)

Transactions of the Fifth Annual Meeting of the Kentucky State Medical Society. Held in the City of Frankfort, on the 6th and 7th of February, 1856. Pamphlet.

Quarterly Summary of the Transactions of the College of Physicians of Philadelphia. January, 1857. Pamphlet.

Disease a Unit; or, Medicine a Science. By H. Backus, Selma, Alabama, 1857. Pamphlet, pp. 60. (Received from the Author.)

An Essay on the Relation of Bilious and Yellow Fever. Prepared at the request of and read before the Medical Society of the State of Georgia, at its session held at Macon, on the 9th of April, 1855. By Richard D. Arnold, M. D., Professor of the Theory and Practice of Medicine in the Savannah Medical College. Pamphlet, pp. 30. Illustrated with three colored Lithographs of the liver. (Received from the Author.)

Report of the Pennsylvania Hospital for the Insane, for the year 1856. By Thomas S. Kirkbride, M. D., Physician to the Institution. Philadelphia, 1857. Pamphlet, pp. 68. (Received from Dr. Kirkbride.)

Report of the Board of Managers of the Missouri State Lunatic Asylum, for the year 1856. Pamphlet, pp. 43.

Fourteenth Annual Report of the Managers of the New York State Lunatic Asylum, at Utica, 1857.

FOREIGN.

Lettsomian Lectures on Insanity. By Forbes Winslow, M. D., D. C. L., late President of the Medical Society of London, etc. 8vo. pp. 160. John Churchill, London, 1857. (Received from the Author.)

Pathological Chemistry in its Applications to the Practice of Chemistry. Translated from the French of MM. Becquerel and Rodier. By Stanhope Templeman Speer, M.D., &c. &c. 8vo. pp. 560. London, 1857. (Received from the Translator.)

On the Constitutional Treatment of Female Diseases. By Edward Rigby, M. D., &c. &c. 12mo. pp. 250. London, 1856. Republished by Blanchard & Lea, Philadelphia, 1857. (Received from the Publishers.)

Clinical Lectures on Certain Diseases of the Urinary Organs and on Dropsies. By Robert Bentley Todd, M. D., F. R. S. Physician to King's College Hospital, London. Philadelphia, 8vo. pp. Republished by Blanchard & Lea, 1857. (Received from the Publishers.)

The Physiological Anatomy and Physiology of Man. By Robert Bentley Todd, M. D., &c. &c., and William Bowman, F.R.S., &c. &c. Part IV, Sect. II (with title, preface, &c., completing the work), London. Philadelphia, 8vo. pp. 725. Republished by Blanchard & Lea. (Received from the Publishers.)

An Exposition of the Signs and Symptoms of Pregnancy, with some other papers on subjects connected with Midwifery. By W. F. Montgomery, A.M., M.D., Professor of Midwifery in King's & Queen's College of Physicians in Ireland, &c. &c., 8vo. pp. 540. Republished from the second London edition by Blanchard & Lea, Philadelphia, 1857. (Received from the Publishers.)

Reflections on Petit's Operation, and on Purgatives after Herniotomy. By Joseph Sampson Gamgee, Assistant Surgeon to the Royal Free Hospital. Pamphlet, pp. 45. H. Balliere, London, 1855. (Received from the Author.)

Researches in Pathological Anatomy and Clinical Surgery. By Joseph Sampson Gamgee, Assistant Surgeon, &c. &c. 8vo. pp. 216. H. Balliere, London, 1856. (Received from the Author.)

THE

NORTH AMERICAN

MEDICO-CHIRURGICAL REVIEW.

JULY, 1857.

Analytical and Critical Reviews.

ART. I.—*The Influence of Tropical Climates on European Constitutions, including Practical Observations on the Nature and Treatment of the Diseases of Europeans on their return from Tropical Climates.* By JAMES RANALD MARTIN, F.R.S., Surgeon to the Bengal Army, retired; late Surgeon to the Native Hospital, Calcutta, etc. etc., London, 1856, pp. 599.

THE work of Dr. James Johnson on the subjects treated of by the volume before us is everywhere well known, and acknowledged to be one of surpassing excellence. It was originally published in 1813, from materials collected and arranged by the author during three years service in the Indian seas, he being at that time scarcely twenty-four years of age. Yet the work of the youth showed the hand of the master; its merits were immediately acknowledged by the public as well as the profession, and it is not improbable that the satisfaction so natural to an author to feel, and the gratification of a worthy ambition consequent on this favorable reception, contributed not a little to support him during a severe illness, while abscess after abscess discharged from the liver, and through a long and tedious convalescence from disease contracted in the fulfilment of arduous duties in unhealthy climes. This work passed through edition after edition, until in 1841 the sixth appeared, in the composition of which last, he was assisted by the author who now appears in the field to continue alone the work so ably commenced by his lamented predecessor and companion.

In the preface to the present work, Mr. Martin modestly informs us of his connection with Dr. Johnson, and of the experience which he thinks has fitted him for the task of rewriting the work. Being called upon to prepare a seventh edition of the original work for the press, he felt that it could not be presented as a complete treatise on the subject; additions having been made to every successive edition, consisting mostly of articles from the pen of Dr. Johnson upon different and unconnected branches of the subject, until it had become "in great part a collection of reviews, which, excellent as they were at the time, could not now be made to represent the advancing knowledge of the day." He therefore determined to rewrite and recast the whole work, adding to the contributions of Dr. Johnson, the result of opportunities, both varied and peculiar, extending over a period of twenty-two years' service in India, during peace and war, among Europeans and natives, in hospital and private practice.

If called upon to give briefly at the outset the characteristics of Mr. Martin's work, we should say they are, Firstly, an attempt to base his medical practice upon the sound basis of physiology, and, Secondly, to impress the importance, and point out the best means of preventing disease. Although in the former he is but following a path already travelled by his predecessor, and in the latter is only continuing the work commenced by Robert Jackson, Hennen, M'Gregor and others, yet he deserves no less praise for having ably seconded the efforts made in these observers. Progress in practical medicine will be made in proportion to the more perfect and definite knowledge we obtain of physiology; and the ardent pursuit of the connection between physiology and therapeutics must animate every lover of medical science with the hope of the speedy dawning of better days. On the other hand, we are proud to point to the labors of medical men in the noble work of preventing disease—to which they are animated alone by the spirit of philanthropy,—the progress of which they are forcing in despite of the direct opposition of those in high places, and by means of which they have already conferred immense benefits on the human race. Success in this direction constitutes the best progress of our art, while at the same time the labor attending it is the least rewarded. "In medicine alone," says Marshall Hall, "is improvement without recompense."

In no other circumstances are sound physiological doctrines more necessary to the medical man than when he leaves the temperate zone for the tropics, having under his care large bodies of men, whose health he is to conserve, and whose diseases he is to cure. Without clear ideas of the influence, both primary and remote, which the new external circumstances will have upon the various functions of the body, he will be unable to distinguish those habits of life which will coincide with the climate in producing disease, to institute proper regimen to obviate its effects, or to adapt his treatment to those diseases which are the result of it. The first one hundred and forty pages of the present work are occupied with these subjects; in the consideration of which the author is full and complete. For his definition of climate he adopts that of Cabanis: "L'ensemble de toutes les circonstances naturelles et physiques au milieu desquelles nous vivons dans chaque lieu," and enters into a full consideration of every particular included in so general a definition. Dress, food, drink, exercise, clothing, sleep, and the regulation of the passions, are each treated of; and there are also copious statistics of the mortality of Europeans in India, drawn from the returns of the army and navy, the results of which are compared with those obtained in other portions of the world. Of course an analysis of the climate of different portions of the British Empire in India, is of no interest to us here; nor, indeed, is it worth while to say much in regard to the effect upon the system of tropical climates in general, the work of Dr. Johnson being familiar to most of our readers. We shall allude, therefore, to only a few interesting particulars.

The exceedingly fatal influence of the Indian climate upon European constitutions becomes more evident upon every page of the book, and far surpasses our anticipations, for we had supposed the mortality of those regions due more to sweeping epidemics, and their unhealthiness to causes against which some years' residence gave comparative security, rather than to the slow unceasing influence of a climate which no acclimation overcomes, and which seems in a league of unending hostility with the native against the foreigner who has invaded his shores. On this point our author quotes Twining, who says that, after careful inquiry, *he was not anywhere able to find a sample of the third generation from unmixed European stock*, and adds:

> "I believe that such is scarcely to be found in any part of India, and least of all in Bengal Proper:—so much for the question of European colonization, respecting which much has been said and written—regardless of the fact that Nature has set her ban—a blighting interdict upon it."

Less surprise will perhaps be felt at such a statement after reading of the influence of the climate upon the inorganic world.

> "A familiar, but emphatic illustration of the effects of our climate may be seen in its influence on the habitations of Calcutta. Constructed of the finest known materials, whether of wood or mortar, and of such solidity that in England they would endure for centuries, and in Upper Egypt for a thousand years; they are here, through the destructive influence, and severe alternations of climate alone, rendered in a score of years, or less, fit habitations only for crows; in much less time indeed, they may be seen reduced to a heap of rubbish covered with vegetation. 'A deserted village is overflowed by the forest like the waves of the sea, in the course of two wet seasons, and the traces of man are buried by the exuberant productions of nature'"

The only class of persons to whom the climate seems beneficial are those in the early stages of consumption:

> "There are two classes of persons to whom our climate seems genial—the weak-chested, as they are called in England, who are of a scrofulous habit, but in whom pulmonary disease has not actually declared itself. These are saved by going to India; and I have known many persons in the curable stage of consumption—that is, laboring under the preceding stage, or that of 'tuberculous cachexy'—enjoy good health in Bengal, and survive their brothers and sisters at home. The fate of those, on the other hand, who go to the East with suppurating tubercles, or even in the stage approaching it, is only precipitated."

Returns of the French army in Algeria are then quoted, showing the rarity of phthisis in that climate, where only thirteen cases were reported out of a total of 8485 patients, and but ten deaths from pulmonary disease out of a total of 871 deaths; and the following conclusions are arrived at:

> "It may, then, be asserted, on the ground of statistical evidence of the most extended nature, that climates and employments that induce sweat, or that induce a gentle perspiration not subject to check, are unfavorable to the existence of scrofula or consumption. It may be inferred, also, that the curative virtue of marshy countries, as respecting phthisis, resides less in the miasmatæ themselves than in the uniformity of temperature, the heat of the atmosphere, a moderate degree of moisture, and the absence of dry, sharp winds."

The chapter on The Prevention of Disease is full and comprehensive, containing remarks upon every particular relating to hygiene. We have already alluded to the prominent position which this subject holds in the work—a position in accordance with the motto which is placed on the title-page: "Rerum cognoscere causas, medicis imprimis necessarium, sine quo, nec morbum curare, nec præcavere potest;" and in the course of the article upon this subject, we find the following paragraph:

> "It is justly observed by a popular writer, that there never were any specifics discovered against the plague, the sweating sickness, or the leprosy; and yet the leprosy, the sweating sickness, and the plague, are now among the things unknown to us. They disappeared, not before any marvels of medicine, or any perfection of chemical science, but before the gradual amelioration of our condition through sanitary improvements."

There is great care taken to point out the influence of length of residence in the climate in modifying regimen as well as the treatment of disease. Thus the author warns the new-comer against those condiments and stimulants which the old resident takes, not only with impunity, but with benefit: in the one they produce highly deleterious effects upon the digestive organs; in the other, they serve to rouse the stomach from the torpor which is one of the consequences of long-continued heat. Believing, too, that the use of stimulating drinks, as a means of "keeping cool" in hot climates, is as prejudicial to health as it is opposed to sound physiological teachings, he agrees with Dr. Johnson in inculcating total abstinence doctrines, to the new-comer at least, and is sarcastic upon those medical writers who have recommended stimulants as a means of "supporting perspiration." His testimony upon this subject is worthy of reception, even if it were not supported by our knowledge of the functions of the body and the effect of alcohol upon them. There are not wanting physicians in other climes than India who recommend stimulants as prophylactics against extreme heat:

> "We hear much amongst vulgar habitual topers of the supposed prophylactic influence of spirits and cigars against night exposure, malaria, and contagion; but no medical observer, in any of our numerous colonies, has ever seen reason to believe in any such delusive doctrine. Nor is there in reality the smallest foundation for it. All excitement is followed by corresponding depression of the vital functions, and it is then that the toper is doubly liable to suffer."
>
> * * * * * * * * *
>
> "It may be received as a truth, that during the first two years of residence at least, the nearer we approach to a perfectly *aqueous* regimen in drink, so much the better chance have we of avoiding sickness; and the more slowly and gradually we deviate from this afterwards, so much the more retentive will we be of that invaluable blessing, HEALTH."

The author contrasts the course of the European, resorting to brandy and water to support the extreme heat, with that of the native, who retires to the inmost apartment of his habitation, and drinks cold water or sips sherbet. For himself, he found warm tea the most refreshing beverage after the most severe marches in the sun; and he cites the just physiological course pursued by Napoleon to obviate and remove the effects of extreme fatigue—a warm bath and a cup of strong coffee. In this connection he alludes to "the recent luxury—the American ice—which has now become an article of necessity in the East," and thinks that those who have once experienced its beneficial effects will "need no arguments in favor of promoting so remarkable an instance of American enterprise."

We cannot avoid citing two instances in which the most fatal results have attended military expeditions undertaken and carried on in defiance of medical advice. Although more properly belonging to the military and naval surgeon, they cannot but prove interesting to all branches of the profession, for the disaster was so plainly foreseen in each case by medical men, their advice so contemptuously rejected, and the penalty which followed so speedy and so severe, that it seems as if they might stand as warnings for all future time.

The first was the expedition to the Island of Walcheren, in 1809–10. It was one of the largest expeditions which up to that time had ever left the shores of England; consisting of 70,000 men, in good health and well equipped. The landing took place on the 31st of July and 1st of August, and by the 10th of October, 587 per thousand of the strength had fallen sick, while there died 142 per thousand! Yet the malarious nature of the climate had been described years before; it was well known to Napoleon, whose tactics were to keep the enemy in check, trusting to the fever to destroy them; and destroy them it did. The expedition miserably failed, and entailed upon the British nation an annual tax of one million pounds sterling *forever!*

The expedition to Rangoon was equally disastrous, and the mortality equally unnecessary. During the first year of the war there perished of the British force 48½ per cent., of whom only 3½ per cent. were killed in action, or died of their wounds; and the total European loss during two years of this Burmese war was 720 per thousand of strength, "being the greatest mortality of which there is any record." Here, besides the evil influences of one of the most deadly climates, the diet of the men consisted alone of biscuit and beef, which latter had been slaughtered and packed at Calcutta during the hottest season, when putrefaction commenced before the salt could penetrate it! Seeing the inevitable consequences of such combined deleterious influences,

> "The superintending surgeon of the division warned the officer commanding that, without fresh animal food and vegetables the European soldiers must perish from scurvy. The answer was characteristic; 'Medical opinions are very good, sir, when they are called for.'"

But there has been a more recent instance than either of these. The scorbutic dysentery of the Crimea destroyed more than the bullets of the Russians, and was brought on in spite of warnings, such as these we have quoted; in spite of medical opinions given on the spot. We confess that this compels us to doubt whether the time has yet arrived when the "how-not-to-do-it" system will be abolished, although our author is pretty sanguine on the subject. He thinks that,

> "Humanity is now at length pretty sure to have a powerful press on its side; and no governor or commander, by sea or by land, can any longer venture to do, or to leave undone the things which I have seen done and left undone."

The most frequent causes of death in hot climates are fevers, diseases of the liver, and dysentery. It is to these subjects we turn with anxious interest to the writings of one who has spent the greater part of his life in treating them, where they are most prevalent and most severe. Those who see in the prairies and in the valleys of our Western States the chief habitation of malaria, have but a narrow view of one of the most wide-spread and destructive causes of disease. There are persons who, having spent a few years in practice in some locality a little more than ordinarily malarious, imagine that they understand the whole matter, and fill pages of our journals with effusions upon a subject of which they have obtained but a limited view. If we would see malaria at *home* we must go, as we would to see the king of beasts, to the tropics, and there we shall find it with unshorn strength, virulent and powerful beyond anything we had anticipated. Under the long-continued heat of the tropics we find, too, inflammation and abscess of the liver occurring in frightful frequency; and dysentery, whether cause, consequence, or companion of these, fatal beyond anything seen in more temperate regions. All these being forms of disease not uncommon among us, and some of them not infrequently prevailing as epidemics, it is but judicious to examine with care the opinions of those who have had much experience with them, in regard both to the causes which give rise to them, and the principles which should guide us in their treatment. This we propose briefly to do in reference to a few points of such an extensive range of subjects, that those who wish may compare the doctrines and treatment of our author with those of Copland, Johnson, Twining, and Budd; or gain additions in practical knowledge upon a class of diseases which differ more in their grade than in their nature, from those of our summer and autumn seasons.

One of the most interesting subjects is brought before us soon after opening the work; that yet unsettled one, the *origin of malaria.* What is it? Whence does it come? These are questions which yet remain unanswered, although so frequently attempted. Our author adds another to the list of those who have made the effort; not, however, we are happy to say, with that tone of confidence which betrays self-esteem, and proclaims a mind bowing in idolatrous worship before its own theories, but in the suggestions which become the man of science, throwing out his own observations as nuclei, around which those of others are to cluster. He became satisfied very early in life that the geological nature of the soil is a most important element in physical climate, and he thinks he has found in a ferruginous soil and a high temperature the most important elements for the production of malaria. He states his experience in India; and diagrams are given showing that wherever malarious fevers are most deadly, there ferruginous soil is invariably found. He quotes from other army surgeons there in favor of the same view, and who believe with Watson, that the theory of the vegetable or marshy origin of malaria cannot be maintained. Not content with India, he sent for and obtained specimens of the soil from all the unhealthy stations on the coast of Africa, and from various parts of the world; all these, upon analysis, yielded a large amount of ferruginous matters. Upon this subject he makes several allusions to this country concerning the doctrine he has broached. He quotes the "Excursions" of a writer who constantly mentions "malaria" in connection with ferruginous soils, with red sandstone rock, and with "the red mud of the Arkansas;" and states, on the authority of "Dr. Forey," that the difference in the composition of soil on the sea-coast and in the interior of the United States, causes the vast difference observable in the prevalence of intermittent fever. From M. Baudens, surgeon-general to the Military Hospital at Versailles, he quotes at some length on the influence of soils on health. This writer says that from the similarity of geological composition of the soil, we can predict the character of the predominant diseases in two regions, however remote from each other, and continues:

> "Finally, as, under a dissimilar geological constitution, we see that the forms of disease differ entirely at the mouth of the Po from those of the Arno, so we can predict a similar difference between the eastern and western coasts of America, and affirm safely the rarity of marsh fevers at the gigantic embouchures of the Simpson, the Columbia, the Oregon, and the St. Francis.'."

We introduce this for the benefit of our professional brethren on the Pacific coast, and look to them to decide whether the statement of M. Baudens can be maintained. The question is an interesting one, and should be borne in mind by all in making observations on the subject, since the present theories do not cover all the facts in the case, and it becomes us to investigate every new proposition, until, finally, we attain the truth.

But our author does not see in malaria the sole cause of disease; there is another agent, which, although its effects are better measured by physical instruments, is as subtle in its essence as the supposed emanations of marshes:

> "It has long been known, that animals waste and perish when they have been deprived of their positive electricity, by being attached to the opposite pole of a galvanic battery. When the human body, on the other hand, has been for some time exposed to an atmosphere of a negative electricity, it is believed by many to become thus incapable of resisting the various causes of disease, as the exhalations from the earth, the force of epidemics, &c. The varying state of the earth's magnetism cannot fail of exercising powerful influences on human health, however little may be the present amount of our knowledge respecting the nature and operation of these influences."

The first disease treated of in the work is the Remittent Fever of Bengal. The author commences with a history of the disease from the first intercourse of Europeans with India, and shows a striking decrease of mortality from what formerly prevailed. After careful examination, he attributes the devastating fatality of former years to the complication of a scorbutic element, and concludes that the decreased proportion of deaths has arisen more from improved hygienic regulations than from improved treatment. He thinks that but little success would now attend efforts to cure Europeans laboring under the combined influence of concentrated malaria and scorbutus. Without being prepared to assent fully to the statement of the author, that remittent fever is "the most prevalent form of disease known to the world, and that by which it is supposed the greater portion of the human race is prematurely destroyed," we know it is a form of disease which comes under the care of the practitioner in many parts of this country, more frequently than any other during some months of the year; and as we cannot find any difference between it, as described by Mr. Martin and as seen in our own country, except in the far greater severity of the former and its more frequent complication with abdominal and cerebral lesions, we shall try to glean what we can from his chapter on this subject for the benefit of our readers.

The milder forms of the disease need not detain us; they are exactly similar to those in our own country; but they are rare there, and what is here the exception, is there the rule. Those forms of the disease accompanied with complications of the abdominal or cerebral organs and with a tendency to collapse, are there most frequently seen, and appalling examples are given of the suddenness of their attack, and the rapidity with which a fatal termination has followed. In the great majority of cases, the seat of the "congestion" is the abdomen—the stomach, duodenum, and liver being found, after death, "turgid, of a dirty red color, and softened," or even the mucous coats ulcerated; in more rare but more frequently fatal cases, the brunt of the disease falls on the brain, and serous effusion is found in the ventricles; the result of vascular determination, "which may pass on to congestion, or inflammation and its consequences." These complications may attend the case from the beginning, or they may arise at any period of its course, so that the physician is warned to be "ever expecting the unexpected!" The tendency to collapse is extreme, and the most alarming prostration of the vital functions may take place even within a few hours.

> "The depression caused by a violent blow on the abdomen, more nearly resembles the febrile collapse than any other morbid condition with which I am acquainted; and both, probably, depend on a disturbance in the functions of the organic nervous system—the powerful though silent source of many symptoms known to us only by their effects."

There is also a great tendency in this fever to establish organic disease of the viscera of the abdomen, and what is so rarely a sequence of the disease here, is scarcely guarded against there; and this peculiar liability must be kept prominently in mind, in order to do full justice to the patient.

> "It must be held in recollection, too, that what are termed congestions, suba-

cute and acute inflammations, tend firstly, to destroy life speedily; and secondly, that, in their remoter results, they found organic diseases which have the same eventually fatal effects. In either case they form conditions of the utmost importance; for, in the first instance, the immediate cure is involved, so as to save life; in the second, the prevention of disease, more or less deadly."

In the selection and application of the means of cure the greatest stress is laid on the different modifications of the disease, the effect of different localities, seasons, and epidemics, and on the proper adaptation of these means to the constitution of the patient, and stage of the complaint. This is the only course pursued by the scientific physician, and we mention it to show that our author belongs to that class, and not to those who have found some new and wonderful mode of cure, equally efficacious in every form and stage of a complaint. He shows by an interesting history of the treatment of those fevers what a baneful influence such writers as these have exerted; that "at different times bark, calomel, and bloodletting, have each in its turn been in almost exclusive favor," but he concludes with the very evident proposition that,

> "It is only by a rational and well-adjusted plan, which shall call into operation all the aids suggested by science and by experience, that such a disease as fever can anywhere be justly treated."

He considers the first indication to be the reduction of the force and frequency of the arterial action; "which if allowed to go on unrestrained, would injure or destroy some organ essential to life." To fulfil this indication, there is but one remedy prompt enough to be of value—bloodletting,—and we find our author a warm supporter of depletion, in what we call "congestive fever." He says it "simplifies all the subsequent means of cure;" and we might quote largely from him in favor of this practice, as showing that the mortality has always been greater; and especially that serious abdominal diseases have been more frequent when it has been omitted; and that even the treatment by bark has been of no avail when not preceded by depletion.

> "I am aware that a kind of fashion is at present moving against the practice, almost to the desire for its total exclusion; but those who are acquainted with the history of medicine, and who have seen and understood the acute nature of tropical diseases, will take fashion here at its proper value and no more."

But to repeat, depletion is not to be blindly pursued, but the greatest care is taken to point out that it should be "*always practised at the very onset of the stage of reaction,*" and that "*what was a saving means at the commencement of the paroxysm, is as surely destructive at the end of it.*"

It is evident that the practice of bloodletting in fevers must rest upon very different grounds from what it does in inflammation, and we regret that we cannot here examine the subject at length. The first question to be decided is the extent to which *congestion* influences the fatal result. If it is not the principal evil, as held by Wood, in his "Practice of Medicine," but that we must look upon faulty innervation as the source of danger, then it is clearly contra-indicated and must necessarily be injurious. But that congestion is the principal danger in many cases, is the conclusion we draw from the author before us, and it is supported by what we have seen of such cases; but he clearly points out those cases attended with great depression of the vital functions, as unadapted for the use of the remedy. It is not alone to severe cases, however, that bloodletting is restricted; he is a warm advocate for its use in almost all cases of remittents and intermittents; believing that it prepares the system for the more speedy influence of all other remedies, shortens the course of the disease, and is highly efficacious in preventing those visceral engorgements so frequently following malarious fevers. In reviewing our treatment of some severe cases of remittent fever, and some obstinate intermittents, we have regretted the omission of this remedy, and more readily resort to it now in the early stages of the disease.

The most reliable remedies after depletion are mercurial purgatives and the sulphate of quinine. The former "rouse the dormant sensibilities of the bowels, and aid in restoring the balance of the general circulation, especially when bloodletting has preceded their administration so as to remove congestions, and thus afford a renewed activity to the functions of secretion;" they "relieve the portal circulation from stagnation, and the liver from consequent disease." The latter, he says, should not be used, unless in the severest cases, before depletion and cathartics have overcome the state of congestion and of disturbed and impeded secretion. In this he is supported by Annesley, Robert Jackson, and Copland. The neglect of these preparatory measures entails visceral disease upon the patient if he escape the attack of fever.

"The nearer the patient can be brought to the state of remission, the surer will be the operation of the antiperiodic."

"The random exhibition of quinine by timid, careless, or inexperienced practitioners, does infinite harm; and in former times, when bark alone was relied upon for the cure of all tropical fevers, the results were horrible."

"Where the remissions are becoming sufficiently well-marked, quinine should be given in full doses, without waiting for a perfectly favorable condition of the system; in bad fevers, we should seize the very first dawn of remission to exhibit quinine. Some practitioners recommend that before this drug is used, we obtain a clean tongue, natural secretions, and the absence of all heat of skin, and of local complication. I believe this to be a very dangerous practice: if we are to wait for everything favorable, we shall often have to wait too long, and till it has become too late."

* * * * "I have always given quinine, in more favorable circumstances,

in disregard of certain abdominal complications (those of the cerebral cavity should, in general, exclude its use), believing that if I arrested the paroxysms, the progress towards curing the disease as a whole, greatly outweighed any harm which the quinine could possibly do to the local affection, the treatment of which by local depletion, by mercurials, or by counter-irritants, is not interfered with by the means in question. Again, all tenderness on pressure, or local pain, does not necessarily constitute inflammation; and even where such is actually present, its character is often so modified by malarious influences and anæmic states of the general habit, as to constitute a state very different from idiopathic and uncomplicated inflammations."

Doses of five grains are preferred by the author, and a favorite mode of exhibition with him is to give it in combination with the cathartics belonging to the early treatment:

"Given in this manner, the quinine applies itself to the whole extent of the mucous digestive surface, so as to give full effect to its tonic and antiperiodic influences; and a larger dose of it can thus be borne in the early stage of fever than if given without the purgative."

These are the principal remedies in the treatment of remittent fevers everywhere, and those upon which the only reliance is to be placed in severe cases; other remedies are but adjuvants, and although he considers all of them, he places no reliance on them. Emetics he is not as partial to as are European practitioners in general, judging from the compendium he gives of treatment; he thinks we cannot yet distinguish the cases in which they will prove beneficial from those in which they will be injurious. No mention is made of washing out the stomach with copious draughts of warm water or herb tea, which is of essential service in allaying irritability of the stomach in our remittent fevers, although he states vomiting to be a frequent and distressing symptom.

Mr. Martin awards priority to Robert Jackson, instead of Dr. Currie, of Liverpool, for the introduction of warm and cold effusions in the treatment of fevers. He relates cases where the latter were of essential service, yet thinks they are too dangerous to be generally resorted to in severe forms of disease. "Measures difficult of application, and sometimes doubtful of result—excepting when used with extraordinary tact—will not be generally adopted or employed by ordinary medical practitioners."

Diaphoretics he looks upon as valuable in this fever, but in the severe cases there is not time for their action.

Wine and spirits are only of value in cases of collapse; then they are "invaluable, and should be always resorted to."

We may add, that mercury should never be carried to the extent of affecting the system, unless some important organ is congested or inflamed; then it is to be given in small and repeated doses, combined, by preference, with camphor in most cases; "it repairs mischiefs which no other means with which we are acquainted are capable of touching."

Dysentery is so peculiarly a disease of hot climates, and so much more severe and frequent in them, that we derive our most valuable information concerning it from those writers who have seen it within the tropics; we may instance Annesley, Copland, and Johnson. As occurring in India, it does not present any great peculiarities distinguishing it from the disease elsewhere; it is more severe and fatal, and the mortality occasioned by it is appalling; rendering it well deserving of the name of "scourge of armies." Complications, especially hepatic, are more frequent than in temperate regions; but its cause and treatment, when occurring in scorbutic diatheses, are not of sufficient interest to detain us here. The symptoms, course, and nature of the disease are well known. We pass to consider the treatment, in which, if we find nothing new, we may find confirmation of the usual course prescribed, by one who has had most abundant facilities for observation. Early and prompt attention to the patient is shown to be of primary importance: "Time is either our most important ally, or else our most powerful enemy;" and it is urged that "in every case dysentery must be speedily overcome, if we would save our patient."

> "It will be found with dysentery, as with fever, that a sufficient abstraction of blood by venesection, practised at the very onset of the disease, will simplify and render easy all the subsequent stages of the cure; so much so, that in mild and uncomplicated dysentery, as in the violently acute and inflammatory type of the disease, bloodletting is the primary as well as the cardinal measure. In acute uncomplicated dysentery, a moderate bleeding from the arm, followed by a full dose of calomel and James's powder, or that of ipecacuanha, say twenty grains of the latter to ten of calomel, given at bedtime, a warm bath or hot fomentations to the abdomen—a morning aperient, followed during the day by sudorifics conjoined with diuretics—the moderate use of demulcent drinks, allowing no other sustenance—will, in a very few days, bring about convalescence."

This is a compendium of Mr. Martin's treatment, varying with the varying aspect of the disease. He warns the young practitioner against model plans of treatment, and acknowledges his inability, in an ever-varying disease, to lay down "any catholic rules of treatment which shall be suitable to every case." Local bleeding should follow general, if there be pain or tenderness in any part of the abdomen in the early part of the disease; and blisters later. The continuance of mercurials are to be judged of by the tongue and discharges; but they are by no means considered indispensable, except in hepatic dysentery. Opium, combined with ipecac, is the great remedy after the inflammation has been subdued by depletion. In the latter stages of the disease—

> "When soreness along any portion of the large intestine exists, with a suspicion of ulceration of the mucous membrane, the use of washed sulphur alone, or in combination with the bi-tartrate of potash, will prove the best aperient given every other morning."

In this stage of the disease, enemata are recommended—simply anodyne, or anodyne and astringent, containing eight to ten grains of acetate of lead, and two of opium, in cold water, if the patient will bear it. The latter remedy is also recommended for tenesmus when distressing. The natives of India, we learn, are singularly averse to injections; nothing will induce them to consent to their use—"the very impression of death making no alteration in their fixed aversion to every such remedy."

In dysentery complicated with hepatic disease, the treatment is essentially the same; depletion being persevered in until "we remove congestion of the portal system, while by the nightly use of calomel and ipecac, followed by compound powder of jalap in the morning, with diaphoretics and diuretics through the day, we relax the skin, emulge the liver, and restore the lost balance of circulation.

In hemorrhagic dysentery, the most powerful astringents in the largest doses are recommended in union with opiates. The author is very partial, in this form of the disease, to acetate of lead, which, he says, "may be given more liberally and more safely than is generally supposed." Among English practitioners, it may be necessary to urge an increase of dose of this medicine; but we do not think such advice needed here!

> "In hemorrhagic dysentery, the lead should be given every two hours, so as speedily to establish its influence, while, to each dose, from half to a grain of opium is added, using, at the same time, strong enemata of acetate of lead with opium, thrown with sufficient force to enter the curve of the colon; and this course of treatment must be persisted in, till the discharge of blood shall have totally ceased."

The complication of the disease with malarious fevers, is that most common in this country, and we copy his remarks on the subject:

> "In treating the complications of dysentery with fevers, remittent or intermittent, we must have regard to the type and prevailing character of the febrile movement, as well as to the paroxysms, in addition to the attention that may be demanded by the condition of the bowels. When the fever is of an ardent, inflammatory character, our antiphlogistic means must be applied with an energy proportioned to the violence of the disease; while in the low adynamic type we must have recourse to bark, quinine, opiate, chalybeates, the vegetable and mineral acids, improved diet, and change of air."

In regard to the treatment of convalescence, he thinks he cannot impress sufficiently upon the inexperienced, the necessity of caution, and that too much attention cannot be paid to prevent a relapse. He adds the following important remarks:

"In convalescence from dysenteries, acute and chronic, much active benfit will be promoted by the external and internal use of the nitro-muriatic acid. When the spleen is found to be enlarged, whatever the stage of dysentery and whatever the type of the fever, mercury must be carefully avoided, trusting to the means just named (in the preceding quotation), and to all such as vivify and improve the blood. It is almost unnecessary to add, likewise, that the abstraction of blood, in the complication of these fevers with dysentery, should be practised only when the fever is of the acute or ardent type, the adynamic forms, as well as the splenic cachexia, not admitting of the use either of mercury or of bloodletting."

Finally, as in fever, he gives a compendium of the treatment of the disease, from Bontius, in 1622, down to Copland, in 1835; and he reviews sharply those pet systems of practice, which are confined to the administration of a single remedy, or class of remedies; and which have been lauded by their originators as unfailing, but have been rejected by the profession as unscientific, or proved by experience to be inefficacious. Such is the treatment by bark or quinine alone; that by ipecacuanha; the repeated strong purging of Twining, and the ipecacuanha, and extract of gentian; and that by solutions of the purgative salts, and tartar emetic. We need not quote his remarks on each of these modes of treatment; the following quotation will serve at once to show his appreciation of them, and the scientific view he takes of the adaptation of treatment to the case:

"He who would treat dysentery with success, while he shuns exclusive means, must assign to each remedy its proper value, and neither more nor less. Bloodletting, sudorifics, and purgatives constitute the most universal remedies, and in simple uncomplicated dysenteries they will prove all-sufficient. But when the abdomen is tumid, and there is pain in the liver, or in any other region, while the nature of the discharges indicates advancing inflammation, calomel conjoined with sudorifics, and repeated to meet the occasion, will powerfully aid the curative effect, through its influence on the depurative functions; on the circulation, in unloading, jointly with purgatives, the gorged vessels of the abdominal organs; on the blood and on secretions generally—and on the very sudorific function which we so much desire to excite. This, in so many words, I believe to be the real value of calomel in the treatment of dysentery; and the inexperienced have been led into much unnecessary doubt, and into no small amount of error, by some writers who regard calomel as a remedy of necessity, and by those who, on the other hand, would exclude its use altogether.

"It is hardly necessary to repeat that while calomel is a most powerful agent in its place, as an aid to bloodletting, the pushing it to the extent of ptyalism is here by no means intended; nor should mercury in any shape be used in adynamic forms of the disease; in the splenic cachexia, nor in states of anemia; for in all these conditions of the system its actions are most injurious."

Hepatitis is considered under two heads, as the inflammation is adhesive and superficial, or parenchymatous and suppurative. The latter is not only more important from its termination in abscess, but from the frequency with which it pursues its course without any symptoms to give warning of its presence. "It is one of the most dangerous of diseases, because of the total absence of urgent symptoms, and its consequent insidiousness; the process which leads to destruction is here silent and rapid."

The question of the connection existing between hepatic abscess and dysentery, the author leaves as he found it, an open one. His testimony agrees with that of many other writers upon the subject, without any new facts being added to substantiate it.

> "We know not, in too many instances, which of the diseases is the primary,—that in the bowel or the liver. But there are cases, and they are numerous, in which we can plainly discern hepatic disease and hepatic abscess as primary, concomitant, and secondary affections in the time of their occurrence; but whether they are to be regarded as a cause, a concurrence, or a consequence of dysentery, is not so easy to determine."

Nor does the author determine it; he quotes from a writer in the Lancet, and from Dr. Henoch, in the Medico-Chirurgical Review for July, 1854, in favor of the connection of the two diseases from their origin in the same causes, and not from any mutual relation existing between them. This is the view held by Annesley,* whose work on Diseases of India stands in very high repute; and we find it supported by Waring,† in his work entitled "An Inquiry into the Statistics and Pathology of some points connected with Abscess of the Liver, as met with in the East Indies." He bases his arguments upon the statistics of the two diseases.

It is seen then that the majority of those who have seen diseases of the liver and dysentery in tropical climates dissent from the opinion of Dr. Budd, which is, that the hepatic abscess arises from phlebitis, or from contamination of the portal blood from absorption of septic matters from the intestine. But that author deserves no less credit because he did not see the whole truth; in the amount of information collected in proportion to the field of observation, no one has surpassed him, and in his admirable treatise he has done infinitely more to advance our knowledge of diseases of the liver, than many who have written from the full wards of tropical hospitals; but only those who have heard him lecture, and have seen him at the bedside, can fully appreciate the acuteness of his powers of observation, the clearness of his descriptions of disease, and the skill with which he adapts remedies to the case in hand.

---

* See Budd on the Liver, 2d edition, London, 1852, p. 78.

† Medico-Chirurg. Review, July, 1855.

It cannot but be a matter of deep regret that a work, so full and complete in every other respect, should fail in one point, where we look with the greatest interest for information; the diagnosis of hepatic abscess is a question that we are obliged to refer to such men as the author. Yet we have here but a few lines more than a page upon this point; hectic, rigors, profuse perspirations, and, "when the abscess is large," enlargement of the side, are mentioned; and we are informed of the great obscurity, both of degree and manner, in which the symptoms are displayed; but no pains are taken to point out the relative frequency and value of these signs, to separate the local and the peculiar from those more general ones, which may belong to suppurative disease of internal organs in general; statistics are lacking just where they are most desirable. In this respect there is a great contrast between Mr. Martin and Mr. Waring, whose work, already alluded to, notes the relative frequency of every symptom. We extract a few of the more important results.

Pain in hepatic or epigastric region	occurred in	153	cases	out of	173
" right shoulder	"	48	"	"	76
Enlargement or fulness of side,	"	90	"	"	101
Vomiting and nausea,	"	74	"	"	84
Jaundice, noted in only	"	9	"	"	360

A reviewer, Dr. Parker, thinks it probable that this latter symptom was undoubtedly absent in the cases where it is not mentioned, and states, that in twenty cases observed by him, jaundice was present in but one.

In regard to opening abscess of the liver, he agrees entirely with Budd, and states that he has often seen it done, and performed it himself, but "never saw it result in any eventual good." He appends a table of fifty-seven cases in which the abscess was punctured; death took place in forty cases, only seventeen recovered. Mr. Waring mentions eighty-one cases punctured, in India, during the present century, but whether these include Mr. Martin's, or not, we cannot say; of these, sixty-six died, or nearly 81½ per cent. Both these authors give the following table of the proportion of cases in which a plurality of abscesses, or concomitant ulceration of the intestine was present, thus precluding the probability of recovery.

Total number of cases, ...	300
There were plurality of abscesses in . . .	108
	192

Of 177 cases, in which abscess was solitary, there was more or less extensive ulceration of the large intestine in .	76
	116

"Thus, out of the whole number, only in 116, or little more than 1 in 3, could the operation have been undertaken with any reasonable probability of success."*

We find no mention of Graves's method of opening the abscess, after a preparatory incision has been made.

But little general treatment is advised for those suffering from hepatic abscess. The nitro-muriatic acid and bitter tonics, are the chief remedies; and favoring the efforts of nature, by gestation in the open air, change of climate, &c., are strongly recommended. The use of mercury in this condition is most strongly deprecated. As it aggravates the irritative fever, and its specific influence favors suppuration and increases debility, it "is always highly injurious."

The table already given is sufficient for prognosis, but surprising and unexpected cures sometimes take place by the efforts of nature alone, and the following remarks upon the mode of termination, are interesting:

> "Of the instances of recovery within my personal knowledge, by far the greater number were amongst such as had discharged the pus by the bowels; and one married lady, I remember to have recovered health rapidly, after vomiting the contents of an enormous abscess. I also saw four instances of recovery where the abscess had opened into the lung. Of those in whom the pus was discharged through the external integument, the majority have, within my knowledge, died."

Mr. Waring's statistics upon this point show the mode of recovery to have been as follows:

By the abscess opening into the lung, or the pus being discharged by expectoration through the bronchi, . . .	10 cases.
By abscess opening into colon or some part of intestine, .	7 "
" one " " " " and one into the lungs, . .	1 "
" abscess discharging its contents into abdominal cavity, .	3 "
" elimination of pus by kidney, ...	2 "
" spontaneous absorption, ...	2 "
	25

Dr. Parker thinks the diagnosis of the three latter heads very doubtful. He is also of opinion that the great relief experienced from opening an hepatic abscess should have some weight with us in considering the propriety of an operation.

We have said nothing of the treatment of acute hepatitis proposed by our author; bloodletting and mercury are the chief remedies, and the one is useless without the other. Although he considers at length the use of mercury in this disease, and argues its value from clinical experience, there is a question of interest which he has not touched upon. If mercury is a special stimulant to the liver, why diminish it when this organ is in a state of acute inflammation? How do we reconcile the administration of the same remedy to correct a state of torpor of an organ, and to cure it when in a state of active hyperæmia? These questions have been propounded by enemies of the science of medicine, and they claim to see in this similar treatment of two opposite conditions by the profession, a course inconsistent with sound philosophy. The best explanation we find in the work of another writer* upon diseases of India, whose views upon tropical diseases coincide very closely with those of Mr. Martin. Viewing inflammation, according to the most recent doctrines, as an altered state of the nutritive processes of the part, he concludes that the capillaries concerned in inflammation are only such as circulate arterial blood for purposes of nutrition. It is the capillaries of the hepatic artery, therefore, which are concerned in inflammation, and not those of the portal vein. By this view of the case, the writer reconciles the seeming violation of the general therapeutic principle, since the secreting capillaries are not the capillaries concerned in inflammation in the liver, although in inflamed glands generally, the reverse is the case. In this manner, too, he accounts for the fact that the liver is but slightly enlarged when inflamed, compared with what it is when congested (an engorged condition of the portal capillaries), and thinks it explains why it is that in hepatitis the secretory function of the liver is but little deranged. We have but sketched his arguments and conclusions upon a point so interesting as tending to elucidate what might appear contradictory between pathology and therapeutics.

---

* Medico-Chirurg. Review, July, 1855, p. 9.

In regard to the sequelæ of fevers, our author has had a wide field for observation, as must have been evident from his remarks upon the frequency with which the fevers of India are followed by visceral engorgements. In chronic enlargement of the spleen, brisk purgatives, quinine, chalybeates, and stimulating liniments, with change of air, are recommended. The following formula of Mr. Shulbred is given, as having been a favorite remedy in Bengal for half a century:

Pulveris Jalapæ;
" Rhei;
" Colombæ;
" Scammoniæ;
Potass. Bi-tartrat. āā ʒj;
Ferri Sulphatis, ʒss.

---

* Clinical Researches on Disease in India: by Charles Morehead, M.D.; British and Foreign Medico-Chirurg. Review, January, 1857.

Of this, sufficient is to be taken to move the bowels twice or thrice daily. Twining recommends a similar preparation in a liquid form—the scammony being replaced by ginger, and Tr. Sennæ fʒiv and Aq. Menth. f℥x, added. The following formula of the author's, we think as likely to fulfil the indications : "Saturated solution of sulphate of magnesia, f℥viiss; dilute sulph. acid, fʒss; sulphate of iron, sulphate of quinine, of each ʒj. Dose: a tablespoonful every morning, or sufficient to produce two evacuations daily."

Where severe irritation of the digestive mucous membrane prevents the employment of these remedies, the author has used pure chalybeates, croton-oil liniments, and warm baths, after the irritation has been allayed. There is no mention of the external application of iodine, which in these cases acts both as a promoter of absorption and a counter-irritant. Two cases of enormous splenic enlargement are reported cured by the iodide of lead, administered internally and externally, and in one of them the remedy "was persisted in to the extent of producing lead colic."

> "Iodide of potassium, warm baths, exercise in the open air, stimulating frictions to the affected region, are all beneficial; but in the chronic enlargement of the spleen, with cachectic states of the system, blisters are apt to slough; and as to leeches and mercurials in such instances, they are certain death."

In cases where the liver is involved in disease along with the spleen, the persevering use of the nitro-muriatic acid bath is recommended, with the internal use of the same acids, in conjunction with bitter infusions and aperients. "Here, owing to the hepatic complication, quinine and chalybeates prove ineffective to the cure of the splenic, while they injure the hepatic disease." The nitro-muriatic acid bath is looked upon as a powerful remedy, and especially adapted to those anæmic and cachectic states of the system in which mercury would be highly prejudicial. Its application does not interfere with the use of chalybeates or bitter tonics, and the fact that neither when exhibited internally or externally is its influence in promoting the secretions interfered with by opium, renders it a valuable means of treating chronic dysentery and diarrhœa with hepatic complications. Hence, it is one of the most frequent prescriptions of the author in the cases detailed, when considering the diseases of Europeans who have returned home after a long residence in India. He has used it in numberless cases, and believes it to be, on the ground of his experience, "an agent of the first order of importance."

We cannot avoid one more quotation; it is on one of the causes of chronic hepatic disease. It shows, what must have been observed already, the extreme care of the author to adapt remedies to the nature and stage of the disease. Having the utmost reliance upon the beneficial effects of mercury in some cases, in others he sees that only mischief can result from its use:

> "It has been observed in Europe, that persons who have used mercury, either in the liberal and rapid manner or as a protracted alterative course, have frequently been afflicted subsequently with severe forms of hepatic disease. There can be no doubt that through the repeated use of this mineral, even when necessarily exhibited, the hepatic function is inordinately stimulated, to be proportionally enfeebled thereafter. The action of mercury on the liver may be viewed as having a close analogy to the primary excitement and subsequent exhaustion of the functions of the stomach produced by dram-drinking."

We are obliged to close our task, feeling that we have been unable to do Mr. Martin full justice in our remarks upon his valuable contribution to medical literature. Many subjects we have left entirely unnoticed; some of these are matters of interest only to Englishmen or Indians; others relate more immediately to the duties of naval and military surgeons; but there are others of deep interest to which we would gladly devote more attention, did we not fear to extend this article to too great a length. Sixty pages of the work are devoted to Epidemic Cholera, and nearly fifty more to Yellow Fever; the former we must leave for another opportunity, the latter for some one who can compare the description of the disease by the author with its appearance in our own borders. The chapters on Chronic Dysentery and Diarrhœa are especially valuable to the general practitioner; in fulness of detail, clearness of pathology, and scientific character of treatment proposed, they equal any other parts of the work.

Our task has been more to present the results of the author's observation and experience than to criticise his views; more to cull what he has learned during a life spent among a certain class of diseases, than to compare his doctrines with those of others who have written upon the same subjects. If, in accomplishing this task, we have imparted a tithe of the information and pleasure we have derived from perusing the volume, we shall be satisfied. It is a work which cannot fail to deeply interest every scientific physician, while it will prove a most valuable addition to the library of the naval and army surgeon.

ART. II.—*A Guide to the Practical Study of Diseases of the Eye. With an Outline of their Medical and Operative Treatment.* By JAMES DIXON, Surgeon to the Royal Ophthalmic Hospital, Moorfields. Formerly Assistant Surgeon to St. Thomas's Hospital. London, 1855.

THE author of this manual thinks, in consideration of the fact that "so great an amount of talent and industry has of late years been devoted to the investigation of Diseases of the Eye, that a new volume on the subject should require a few words of introduction." It certainly can require nothing in the way of apology for its appearance, if it be one of merit. We cannot have too many works of *merit*, to guide the student of medicine in the management of the diseases of this most important organ; for it is an undeniable fact, that the profession at large is grossly ignorant on the subject: their stock of knowledge often at the best consisting in some crude ideas only of ophthalmia and cataract. With these they undertake to treat affections often requiring really consummate skill in their management; and yet, the profession is ever ready, and especially that part of it to whom, perhaps, the greatest sin is to be imputed, that in professorial robes, to raise an indignant voice against the credulity of the public in seeking aid of professing-advertising *oculists*, who reap a rich harvest from the neglect of the study of the eye affections by the profession at large. Much as we ourselves condemn quackery, we are forced to admit the fact, that these charlatans, although ignorant of general pathology and therapeutics, and often even of the anatomy and physiology of the organ, acquire, from the ample opportunities afforded them, a much larger amount of knowledge of the symptoms, diagnosis, and treatment of these diseases, and also, often, much more considerable skill in the operative procedures required for their relief, than is possessed by the majority of regular general practitioners. It would appear to have been long the custom with our profession to suffer the treatment of diseases of the eye to fall into such hands, for Jean de Vigo speaks of leaving the ordinary diseases of the eye to "*foreigners;*" which proves that our friend Jean was no Yankee, although he dubbed these interlopers with a favorite Native American epithet.

In the earliest ages of our profession, it would appear that the diseases of the eye received their full share of attention. Tradition tells us that there were full accounts of various diseases of the eye in the works of Thoth, who passed with the Egyptians as the inventor of all sciences and arts. These works were lost at some unknown period, but from tradition would appear to have been an enormous collection of more than twenty thousand volumes, written, probably, by different persons, and at various periods, and to have embraced all the learning of the ancient Egyptian priests, who were also the physicians. But we do not have to rely on tradition to prove that the Egyptians paid great attention to the subject, for Herodotus tells us of Cyrus writing to Amasis, king of Egypt, to send him an oculist.

The early Greeks were familiar with the diseases of the organ. To them we are indebted for the names which most of its affections now bear.

Chiron, the preceptor of Æsculapius, is reputed to have been skilful in the treatment of the eye; and Erisistratus, who lived in the courts of the

Syrian kings, concocted a great many eye-washes, to which the name of *panchrester* was given.

In the palmy days of the Roman Empire, ophthalmology and ophthalmic surgeons would appear to have flourished to a very great extent. More that fifty oculists are cited by Scribonius, Galen, and other old writers. And particularly in the times of Tiberius and Augustus Cæsar, it would seem that these specialists were as numerous, if not more so, than at the present time, and to have received great distinctions; for we find P. Attius Atimetus, styling himself *Augusti medicus ab oculos;* and Titus Syrius, claiming the same office to Tiberius. (Haller. Biblioth. Chir. vol. i, lib. i, § 24.)

It does not, indeed, seem unreasonable to suppose that the ancients acquired considerable proficiency and knowledge in the treatment of the eye. They were undoubtedly good and close observers; and although their ideas of the anatomy and physiology of the organ were very crude, and often erroneous, yet the importance and exposed position of this structure, the tangible character, as it were, of its affections, and the influence of the local applications upon them, not only furnish the best explanation for the great attention which the subject received, but afford strong grounds of inference, that the science made great advances in these early times.

We have positive proof of such progress having been made by the ancients, for besides frequent references to the diseases of this organ in the writings of Galen, Hippocrates, Pliny, Oribasius, and Ætius, we find in the works of Celsus, a full account of the state of the knowledge on the subject at his time, which shows clearly the great progress which it had made. Most of the diseases of the organ with which we are now familiar, are enumerated by him, and many of the operations described by him with great accuracy, would be thought very appropriate, in the opinion of any surgeon of the present day, for the cases for which he mentions them.

Mr. Dixon, as we have quoted above, alludes in his introductory remarks to the great amount of talent and industry which has of late years been devoted to the investigation of diseases of the eye. Few are aware of how very recent a date this devotion of a great amount of talent and industry to the subject is. Yet this fact is very readily proved by a simple reference to the dates of the publication of the various treatises on the subject which are esteemed of any value. A glance at the Bibliography of Diseases of the Eye, will show how very few treatises were published on the subject before the beginning of the present century, and of these few, how comparatively small is the number which can claim the merit of being anything more than books intended rather for public inspection, and notoriety, than for the advancement or diffusion of knowledge in the profession.

It is not easy to determine who wrote the first distinct treatise on Diseases of the Eye. Of the host of oculists whose names have been handed down to us through the earlier writers on medicine and surgery, we have no evidence, either traditionary or otherwise, that any one wrote a distinct treatise on this special subject. We should, indeed, be totally ignorant of the names of a large number of these gentlemen, were it not that they have been prefixed to formulæ for collyria, with many of which we doubt not those to whom their invention was thus imputed, were entirely unacquainted. Thus we read in Celsus of the Collyria of Philletes, Philo, Cleon, and many others, whose fame as oculists would never otherwise have reached us.

It is not before the seventh century that we can discover any evidence of the existence of a special work on the eye. This was said to have been written by Alexander Trallianus, who lived to an advanced age, and died in Rome, after having composed a number of treatises on medical and surgical subjects, one of which was on the eye. M. Eloy, author of the Dict. Hist. de la Médecine, Anc. et Mod., states, that the one on the eye, if it ever existed is not now extant. But Mr. Haynes Walton not only mentions this work of Alexander of Tralles, but states that it consisted chiefly of formulæ for collyria. It is frequently cited by Ætius and later writers.

There would appear to have been a number of treatises written on the subject by the Greeks and Arabs who immediately preceded Rhazes, few, if any, of which are now extant. Rhazes quotes from them. He refers to Lororacos de Morbis Oculorum, and to Jasue, Bin Thalnis, Sœpius, Serapion, and others, as having contributed to the literature of the subject. Rhazes himself may be said to have written a distinct treatise on the eye; for the second book in his Contenens is devoted to the diseases of that organ. The same may be said of Paulus Ægineta, who preceded Rhazes, and flourished about a hundred years after Alexander Trallianus, for his third book is exclusively taken up with the consideration of "some of the diseases of the eyes."

We have to pass from the times of Rhazes, in the tenth century, over a period of full a hundred years, before we can find even any record of the production of another treatise on the eye. It does not deserve the name of a new work. It was the production of Constantinus, surnamed Africanus, a native of Carthage, who, having travelled in the East in the search of knowledge, returned to his native place to pursue his profession there, but was driven out from it under fear of death, as he was looked upon as a magician. He took refuge in Apulia, and afterwards became a professor at the famous school of Salerno. From this post he retired into a monastery, and there indulged his taste for study, and composed, amongst others, a treatise on the eye, which however was, as we have intimated, but a compilation from the Greek and Arabian writings. Indeed, most of the medical works of that period were but compilations of the same sort. The blind deference to the ancients, and consequent want of confidence in personal observation, were the great causes of the want of progress in this age of ignorance. In none of the works, from the 6th century down, we might safely say to the 18th, certainly to the 17th century, can we find any evidence of progress as regards diseases of the eye. The works published in this period consisted chiefly of repetitions of what Celsus and others had written, interspersed with recent and often very crude errors. After the times of Constantinus, medicine and surgery rather receded than progressed, and we have to wander over another hundred years before finding another treatise written on the diseases of the eye.

Canamulasus de Baldach, a Saracen, who lived in the early part of the 13th century, published a book, on the articles from which remedies for the eye were to be prepared, and this is the only new treatise which appeared between that of Constantinus in the 11th, and that of Benevenutus Grapheus, at the close of the 15th century. About the same time with the appearance of Grapheus's work, that of Jesus Hali, on the Knowledge of the Infirmities of the Eye and their Cure, made its appearance. These treatises were published, together with the Chirurgiæ of Guy de Chauliac, in 1499.

The knowledge of diseases of the eye began to make progress, as did that of all other branches, soon after the great impetus given to the study of anatomy by Vesalius, Fallopius, and Eustachius, in the 16th century, and we consequently find the number and character of the treatises on the subject changed. We find appearing, in the beginning of the 16th century, the works of Mercurialis and Stephanus; and in 1602, edited by his son, Heurnius on Diseases of the Eye. This work belongs to the 16th century, for its author, the distinguished professor of Leyden, died in 1598, at the age of 55 years, of stone in the bladder. Soon after the publication of this work of Heurnius, there appeared Plempius's Ophthalmographia, and the works of Otto and Meibomius on the eye. It was in this, the 17th century, that the true nature and seat of cataract were first surmised by Rolfink, and demonstrated by Brisseau; and it was also in this century that we find enrolled such names as Kepler, Scheiner, Des Cartes, Ruysch, Mariotte, and Leuwenhoek, as contributing to the advancement of the knowledge of the eye; and yet, neither in this century, nor even in the first half of the 18th century, do we find (with a few exceptions) the treatises on the diseases of the eye assuming a truly scientific character. For, although before the close of the 18th century, the pathology and treatment of the eye had made considerable advance, and had received no little attention from men like Cheselden, Petit, Heister, and Sharp, yet the treatises on the diseases of the eye, with the exceptions of those of Maitre Jean, St. Yves, and Janin, consisted merely of formulæ for eyewashes and accounts of wonderful successes in treatment, published for the purpose of attracting custom.

The progress made in the 18th century is by no means to be judged of by the character of the *treatises* on the subject, or even by anything contained in them. The contributions made by those whose names we have referred to, and by many others, who devoted to diseases of the eye the attention they deserved, are not to be found in treatises, but in monographs and communications to learned societies. It is to the latter, however, that we must always look for the signs of advancement. An author of a treatise is too often biassed in his judgment, or possessed of peculiar views of his own, which prevent his giving a just *résumé* of the subject.

The present century has, it may be fairly said, been more prolific in treatises on the eye, than on any other speciality. Their name is legion, and those who are directing their attention to the subject, may be said to be innumerable; men are no longer in many places deterred from doing so, by the fear of the sneering epithet of "specialist" being attached to their names. A class of diseases which could be deemed worthy of special attention by such men as Scarpa, Travers, and Lawrence, cannot be beneath the notice of humbler men. All the greatest surgeons the world has produced, have found interest in the subject, and prided themselves on their skill in the delicate operations on the eye. Many, it is true, in former days, were deterred by public prejudice from paying proper attention to the subject; but in England, at least since Mr. Travers' time, the fear of being disqualified in public opinion, by a reputation acquired in diseases of the eye, for the treatment of other diseases, no longer deters surgeons from the cultivation of such a large and legitimate field of observation. Such a *special* reputation has, on the contrary, often since then served but as a stepping-stone to more general surgical practice. And it is but right the profession in this country should be aroused to a proper feeling on the subject, for with its members as much as with the public rests the fault of fostering a prejudice, if any exists, against paying the proper attention to diseases of the eye they deserve; and it is hard to conceal the fact, that such prejudice does exist to very great extent in this country. We attribute, we say, much of this fault to the profession at large. For when called upon to treat diseases of the eye, most practitioners, too little informed on the subject, either tamper with the patient, or confess candidly that they know nothing on the subject; assigning in either case as a cause for such a state of things, that the disorders of the eye are so very numerous and intricate, and the operations for their relief require such exquisite skill, as to need one's exclusive attention, to the utter disregard of all other diseases of the body; and hence the reasons of their neglecting them. Popular prejudice is thus fostered by those who should be the very ones to do away with such prejudices, for such prejudices are highly injurious to the science. It is true that affections of the eye must be studied to be understood, but they are not so peculiar as to differ in their nature from the morbid actions in other parts of the body. On the contrary, they are governed by the same laws, and influenced by the same remote sympathies. Hence, one must be a thorough surgeon to treat them properly; but how few will be willing to acquire a reputation for skill in such diseases, if it will act injuriously to him in general practice. Can it not, therefore, be readily seen, how many men of talent and industry may be deterred by this popular feeling, fostered by the profession itself, from devoting a *proper share* of their time and attention to the disease of this important organ? And thus this branch of medical science is made to suffer by the medical profession itself. We would repudiate the name of *oculist*, but we would have every physician thoroughly skilled in the treatment of diseases of the eye. We would have every one pay that attention to the subject which its importance demands. Ophthalmic surgery should be made a part of the regular course of study of every medical man in this country, as it is made in some places abroad.

We believe that the state of the literature of a subject may be generally taken as a fair criterion of the absolute amount of attention which that subject is receiving, especially in medicine, where all progress in science has been faithfully chronicled, with very few exceptions. If we were to judge of the amount of attention which diseases of the eye are receiving in this country by this criterion, we have but little to boast of, for of the only two works by American authors, with any pretension to originality, Frick's and Littell's, the latter is the only one that has a right to such a claim, for the former is but a mere compilation from Beer's elaborate treatise. Although it is not our purpose to enter with any detail into the merits of any other work on the diseases of the eye than Mr. Dixon's, we may remark in regard to Dr. Littell's Manual, that it has been deemed worthy of republication in Great Britain, where we have had an opportunity of knowing that it is very highly prized, and that if it is the only original work on the subject of which the country can boast, it is one of real merit. As a writer in the British and Foreign Medical Review observed: "It is no small triumph to Dr. Littell to be able to say that he has introduced almost all that is valuable, and everything absolutely necessary to the student, within the compass of two hundred and fifty small pages."

Mr. Dixon's Guide bears a very close resemblance to Littell's Manual, and has, we believe, but one merit over it,—it is a more recent publication. It is more than ten years since the last edition of Dr. Littell's Manual made its appearance; we hope, ere long, to be able to chronicle the issue of another, revised by its able author, who has for nearly a quarter of a century been one of the kindest and most skilful surgeons to the oldest ophthalmic institution in the country.

Mr. Dixon speaks of diseases of the eye as he has seen them, and has avoided, as much as possible, all theoretical and controversial matters. In respect to treatment, he has limited himself to general rules, and briefly and plainly to record what his own experience has led him to prefer. Such, he states in his preface, has been his aim. How well he has succeeded, we shall endeavor to give our readers the means of judging for themselves. The objects he has had in view should commend his work to all. He has certainly set out with the only motives which an author should have, in adding another to the many treatises which have so recently appeared on the subject. The great fault we shall have to find with his book in the following review, is that he has written too little. The necessity for condensing has, in too many instances, compelled him to pass too hurriedly over points to which, we think, more importance should be attached in a Guide to the Study of Diseases of the Eye.

In the first chapter of his book, Mr. Dixon describes the various modes of examining the eye; he gives special directions for the examination of the cornea in children suffering with scrofulous ophthalmia, &c. His description of the manipulation to expose the conjunctiva of the upper lid, by everting the part, is very clear. In reference to this point he justly remarks, that it "requires a good deal of knack."

He then passes to the examination of the parts behind the pupil, and to the investigation of the deeply seated structures of the eyeball, and in connection with this subject, he refers to the recent invention of the ophthalmoscope, by Helmholtz, and its modification by Ruette and Coccius. He describes the simplest form of the instrument, that of Ruette, and gives directions as to the manner in which an examination of the eye with it is to be conducted. In reference to this last point, he makes the following remarks:

> "One very important fact should never be lost sight of by those who employ the ophthalmoscope, namely, that the mere concentration of powerful light on the retina, if continued for more than a few seconds, does of itself place the part in an unnatural condition. In exploring the internal ear, by means of artificial light, we may, indeed, concentrate the rays upon the tympanic cavity or its membrane, to any amount, without injury to the parts illuminated; but the *retina*, so far from being a merely passive object of examination, is just the one tissue in the body

which appreciates the intensity of the rays which fall upon it; and it must be borne in mind that the eye may be irritable and intolerant of light to an extreme degree, even although there may be a considerable diminution in its power of perceiving objects."

Although we are willing to admit that the retina is not "a merely passive object of examination" with this instrument, and that it is "just the one tissue of the body which appreciates the intensity of the rays which fall upon it," still we cannot agree with the author in forbidding the use of the instrument for more than a few seconds at a time. The consequences dreaded from this concentration of light on the retina, have deterred many from using the instrument altogether; and this dread has even induced some to condemn it in toto, without ever giving it a trial. They also urge that, even admitting the use of the instrument *for a few seconds* to be attended with no evil consequences, the time is too short to allow of any satisfactory results from such an examination. We confess that, from our first impressions of the character of the ophthalmoscope, we were induced to participate in these evil prognostications in regard to it; but after a frequent, free, but careful use of the instrument for a period of more than two years at a large eye infirmary, where we have employed it certainly in more than one hundred different cases, in that period, we are convinced that these objections are more theoretical than real. We have employed it in cases of hyperæmia of the retina, acute retinitis, choroiditis, and posterior ophthalmitis, and we have *never* seen any evil consequence follow its use; and in not more than half a dozen out of the whole number of cases in which we have used it, have we found the patients to complain of the intensity of the light, although the examinations were often continued long enough for us to sketch the diseased structures, or to enable a few professional friends to view them after us.

We do not wish to be understood as advocating an indiscriminate and reckless use of the ophthalmoscope; we are even free to admit that there are cases, where its use, when long continued, may be attended with harm; but these, we are satisfied, are relatively infrequent. We are convinced that the instrument has in some quarters met with unmerited condemnation. This we believe, in some instances, has been from a want of proper knowledge and skill in its use. An optician mentioned to us, some time since, a circumstance which goes to confirm this conviction. A medical man, he said, consulted him about the manner of using a form of the instrument, which he had received through a friend from abroad. As the optician was as little familiar with it as the doctor, the two together made little, indeed no progress in its use, and they came to the conclusion, a real Yankee one, that it was a *humbug*. Not long afterwards there appeared in a medical journal a review of a work on Ophthalmic Surgery, from the pen of this same medical gentleman, in which the ophthalmoscope was condemned, as both useless and injurious.

The ophthalmoscope has to share the fate of every other innovation in our art. Vaccination was decried from the pulpit. The stethoscope was spoken of as a stick of wood with a fool at one end and a knave at the other; and the use of anæsthesia has been condemned as a defiance of the will of the Almighty, who but justly inflicts pain on poor mortal man. Yet all these boons to our profession have outlived their detractors, and are now treasured by us as invaluable; so, we doubt not, will be the fate of the ophthalmoscope. Ophthalmoscopy is but now in its infancy. As improvements are made, as they no doubt will be, in the construction of the instrument, and as greater skill and accuracy are acquired in its use, we will find it to become invaluable in the study of deep-seated disease of the eye.

At present we will not claim for the instrument any more value than Mr. Dixon assigns to it. He says:

> "The chief value of the ophthalmoscope seems to consist in enabling the surgeon to set aside, as positively hopeless, a large number of cases formerly termed amaurotic or 'nervous,' which were assumed to be still curable, because their real nature could not be demonstrated.
>
> "We now know," he continues, "that total disintegration of the vitreous body, detachment of the retina from its connection with the choroid, and other equally hopeless conditions of structures essential to vision, may exist without any alterations being produced in the outward appearance of the eye. In enabling us, therefore, to appreciate these conditions, the ophthalmoscope has proved of immense value."

We cannot, however, further agree with the author, when he says, that "the more delicate changes occurring in the early stages of deep-seated disease, whilst they elude detection by this instrument, are almost certain to be aggravated by its application;" for we are not so satisfied as to the certainty of this aggravation, when the instrument is judiciously used. We do not advocate an indiscriminate resort to it on all occasions; for we fully agree with Mr. Dixon in his remarks upon "subjecting persons complaining of slight defects of vision, to the searching glare of the ophthalmoscope."

> "First," he says, "let the cornea be most rigidly examined, to ascertain whether some loss of transparency may not exist in the axis of vision. Then, after the pupil has been dilated, let the lens undergo a similar scrutiny; and until the observer has thoroughly satisfied himself that both these structures are transparent, let him not subject the retina to the possibly irritating effects of concentrated light."

The instrument in improper hands can, we doubt, not, be made to do harm. It requires "knack" in its use. Many a poor patient, we are satisfied, has had his eyes irritated by the long-continued, but often unsuccessful efforts of the tyro, to bring the instrument into adjustment on his eye. It requires long practice to obtain freedom and facility in its use; hence the author very properly advises that the student's "first trial should be made on one of the lower animals—a kitten, for example; and when he has acquired readiness in using the instrument, he may next proceed to examine patients who have long been hopelessly blind, but in whom the media of the eye remain transparent." (p. 8.)

In a subsequent part of the work (Chaps. IX and X), Mr. D. speaks of the healthy appearance of the retina and deep-seated structures to be observed by the instrument, which he describes accurately and even somewhat minutely; and also of some of their various pathological changes, which give rise to those physiological and objective symptoms, which have been heretofore classed under the vague term of amauroses.

He says, in reference to these latter, that "the earlier stages of disease (which alone are *curable*), produce changes so slight and delicate as to elude observation."

This, we are convinced from personal experience, is not really the case. We have met with some cases, at least, of congestion of the optic nerve, retina, and choroid, which we could detect by the instrument, and which have proved *curable.* Many such cases have been reported by German and other writers. But we have dwelt already long enough on this subject, and must pass to other points in the book equally worthy of careful consideration.

Chapter II is devoted to the consideration of the diseases of the conjunctiva, including Pinguecula, Pterygium, Simple Ophthalmia, Pustular Ophthalmia, Catarrhal Ophthalmia, Purulent Ophthalmia, Granular Conjunctiva, Gonorrhœal Ophthalmia, Purulent Ophthalmia of Infants, Scrofulous Ophthalmia, Exanthematous Ophthalmia, and Chronic Ophthalmia. The discussion of all these various and important topics is embraced in a space of only forty-seven (47) pages. This, perhaps, is as much as could be properly allotted to them; but we ourselves wish Mr. Dixon had written more fully, especially on the treatment of these affections, as they are so little understood by the mass of the profession; and in reference to which, all that he has said seems to us so judicious.

We have enumerated above the various forms of conjunctivitis of which Mr. Dixon treats, and it may be observed that his classification is simple. It corresponds to that which is most generally adopted by English authors, and is much more satisfactory than the various subdivisions resorted to by the French and German systematic writers on Diseases of the Eye.

The distinctions which the latter draw are so numerous, that they cannot but fill the minds of students with dismay, at the great variety which they suppose affections of the conjunctiva may assume; whereas, most of their subdivisions of conjunctivitis are, as Mr. Dixon observes, "purely fanciful, and wholly inapplicable to practice."

In reference to the treatment of that most common and often troublesome affection of the eye, catarrhal ophthalmia, Mr. D. makes a very proper discrimination as to the use of nitrate of silver; we quote his remarks in full on the subject. He says:

> "It is in this purely conjunctival form of catarrhal ophthalmia, that the local application of nitrate of silver is of such remarkable utility. Where the sclerotic is much injected, or there is any rheumatism present—as evinced by the pink zone around the cornea, tenderness of the globe, pain about the orbit, and neuralgia throughout the opthalmic branches of the fifth nerve,—the nitrate of silver is contraindicated, at least until after the affection of the fibrous tissues has been subdued by appropriate treatment." (p. 23.)

There is no doubt, in our mind, that it is from a want of a proper discrimination in these cases, that many practitioners not only often fail to afford relief in catarrh of the eye, but absolutely cause destruction of the organ.

The strength of the solution which, Mr. Dixon says, should be used in catarrhal conjunctivitis, is two grains to the ounce of water; and this he recommends to be applied to the conjunctiva twice or thrice a day. He does not speak of the use of any other applications or collyria, nor does he make any reference to the necessity for a resort to depletion, either general or local, as is advocated by Lawrence in plethoric young persons.

Mr. D. seems to rely almost entirely on the local treatment of this affection. In this respect he differs very widely from Mr. Lawrence, who seems to attach the first importance to the general treatment, and to consider local applications of minor consequence. In this matter, however, Mr. D. has the authority of Mackenzie and Beer to sustain him, and we believe his plan of treatment will meet with the approbation of every practical ophthalmic surgeon of the present day. Still, although he relies on local means, he would not have the practitioner overlook the patient's general condition, for he says:

> "Due attention must, of course, be paid to the state of the patient's general health; the bowels being kept open, and the diet regulated according to circumstances."

In reference to the last point, we think his remarks very judicious, and would be instructive to those who hope always to cure this affection by starvation. Here is what he says:

> "As a rule, a moderately nourishing diet, and at least the accustomed quantity of beer or wine, are to be insisted upon. But as in a feeble and depressed subject an additional quantity of stimulus will hasten the cure, just so must a reduced style of living be enforced upon the overfed and intemperate. The common sense of the surgeon must teach him to keep his patients on the proper level in these matters, and not to stuff or starve them indiscriminately, in accordance with any scientific theory of disease." (p. 24.)

In his treatment of the purulent form of the disease, Mr. Dixon resorts to the early and free use of tonics, in place of the depletory plan formerly so much in vogue, and which he considers (and very justly, we think) cannot be too strongly condemned. He quotes the following startling statement from Mr. Wardrop: "The only case" (of gonorrhœal ophthalmia) "he had seen in which the eye was saved, was that of a young woman, in whom venesection was repeated as often as blood could be got from the arm. She lost 170 ounces in a few days, and looked as if every drop of blood had been drained from her body; the skin having nearly the hue of a wax candle."

This Mr. Dixon quotes to show the extreme measures formerly resorted to in the treatment of this dangerous disease, and then aptly remarks: "Can we wonder that thousands of persons, with that tendency to rush into extremes, which is one of the infirmities of our nature, should seek refuge from such treatment under the milder discipline of homœopathy?" (p. 32.) He further says:

> "If the treatment of purulent ophthalmia by excessive depletion be judged by its results—the only sure test—we shall, I think, be forced to confess that there was ample cause for trying some less violent means of cure. It has been suggested that the more temperate habits of the mass of the people at the present day, as compared with what existed fifty years ago, may exert a considerable influence over the inflammatory manifestations of certain diseases, and that those surgeons who described purulent ophthalmia, as they saw it at the commencement of the present century, had really sometimes to contend with a greater fulness and force of circulation in their patients than we are in the habit of witnessing, especially among the overworked and crowded population of our great towns. Certain it is, that as far as my own experience at a large metropolitan hospital enables me to form an opinion as to the general condition of patients suffering under purulent ophthalmia, I should say that they are uniformly more or less depressed, with a pulse more feeble than natural, and in a state which in every way contraindicates general bleeding, and calls for the administration of tonics. There is usually a coated tongue, with loss of appetite; and a brisk purgative is needed at the very outset of the treatment. Afterwards, either bark and ammonia or quinine, should be given, and hyoscyamus, if the patient be restless. Pure air, to many the best of all tonics, must, if possible, be obtained; and all unnecessary confinement to bed or to one room, avoided. Meat may be

allowed once a day, and a moderate quantity of beer or wine; but on this head, no arbitrary rule can be laid down. The surgeon's judgment must guide him as to the cases in which he ought to forbid stimulants, recommend them in moderation, or even insist upon an extra quantity being taken." (pp. 32 and 33.)

Mr. Dixon says nothing in reference to *local depletion* in the treatment of purulent ophthalmia, and his silence on this subject in connection with his strictures on the depletory plan of treatment may readily be construed into condemnation of a resort to such means. We hope, however, that it was not his intention to be so understood; for, although we would heartily join him in his philippic against general bloodletting in the majority of cases of this disease, we should be sorry to be denied the liberty of resorting to leeching and cupping in the treatment of such cases, and especially to the former remedy. Local depletion is not inconsistent with a free use of tonics and stimuli, and we are satisfied that many who employ the general tonic course of treatment will sustain us in the conviction, that they have (as we have), seen great benefit attending local depletion in connection with such treatment. We are sure we have seen the cornea saved in many cases of purulent ophthalmia by an early and free application of leeches, in conjunction with the use of tonics, which could not have been preserved without a resort to them. The amount of blood removed by the application of a few leeches to the neighborhood of the diseased structures is not such as to materially influence the general circulation, but the local effect in the conjunctiva is immediately apparent. The cornea in all violent conjunctival inflammations suffers by *default*, as it were, it being dependent for its healthy nutrition on the freedom of the vascularity of the neighboring tissues, and when the circulation in them is impeded, it must suffer.

Our author very justly endeavors to impress upon the minds of his readers, that the danger to the cornea should be the source of their greatest anxiety in the treatment of this disease. His remarks are well worth quoting:

"The student," he says, "ought constantly to bear in mind that, although the disease termed purulent ophthalmia, has received its name from that symptom which most readily attracts notice—namely, the profuse conjunctival discharge, the real source of danger lies in the *cornea;* and that, even if it were possible so to drain the patient of blood as materially to lessen, or even wholly arrest the discharge, we might still fail to save the eye. It is not the flow of pus or mucus, however abundant, that should make us anxious, but the uncertainty as to whether the vitality of the cornea be sufficient to resist the changes which threaten its transparency. These changes are twofold,—*rapid ulceration* and *sloughing*. Now, has any sound surgeon, I would ask, ever recommended excessive general bleeding and salivation, as a means of averting these morbid changes from any other part of the body except the eye?"

Mr. Dixon's use of the word *general* to qualify his objection against bleeding, may admit of the supposition that his strictures on the subject were only in reference to that mode of depletion. We, for our own part, hope such to be the case.

After purulent ophthalmia our author directs attention to granular lids as a sequel of this affection, as also of long-continued catarrhal ophthalmia. Why he should have interposed this section between those of purulent ophthalmia and gonorrhœal ophthalmia, we cannot see. It cannot be that he does not consider granular lids as ever occurring as a sequela of gonorrhœal ophthalmia. Mr. Dixon is too much at home with his subject to induce us to suppose such was his intention, and yet the arrangement is one that might readily lead the beginner into such a belief.

In this section on granular lids (which consists of only two pages and a half), the true nature of these granulations, so called, is pointed out to be " merely the mucous follicles and papillæ of the membrane enlarged by inflammatory deposits." He speaks of the size and appearance of these " granulations," their influence on the lid, acting, as they do, like foreign bodies, and of the various plans in use for their removal. In reference to this latter point he observes :

> "I believe that in most cases of granular lid, our chief dependence must be placed in improving the patient's general health, by giving him iron and quinine, singly or in combination, regulating his diet, and, if, possible, placing him in a pure and bracing air. An issue in the skin of the temple, kept open with a single pea, and occasionally stimulated, if the discharge becomes scanty, with some caustic or other irritant, is a slow but often very serviceable adjunct. Tincture of iodine, painted on the skin of the lids, is also useful."

On the subject of the local treatment the following contains a summary of our author's views :

> "I have," he says, " at various times, tried all the most approved lotions and drops, but have never satisfied myself that any of them were of much benefit. The acetate of lead in fine powder, dusted over the everted lid, produces considerable pain at the time of its application, but afterwards gives decided relief, apparently by mechanically filling up the interstices of the granulations, and so producing a smooth surface for the eyeball to move upon. As the salt slowly dissolves, it probably exerts also an astringent effect upon the vessels supplying the enlarged follicles and papillæ, and so diminishes the size of these excrescences." (p. 36.)

Granular lids is undoubtedly one of the most frequent sequelæ of long-continued conjunctival irritations. They form the essential lesion of three-fourths of the cases which present themselves at the various Eye Infirmaries of our Eastern cities, and in the Far West, they have become so exceedingly numerous, as to attract the attention of all—of the law as well as of the profession,—who may visit those garden lands of our Confederacy. Our author says that, "Any person who has attended the practice of a London Eye Infirmary, must have been struck with the fact, that the severer cases of granular lids, with the attendant deformity of entropion and misplaced eyelashes, are met with among the most destitute Irish patients." With us, on this side of the Atlantic, although there are to be found many aggravated cases of granular lids from the Emerald Isle, still, as far as our observation goes, the worst cases we have ever seen, were from the other side of the mountains, and amongst those who had never even beheld the deep waters of the Atlantic. In the great Northwest, and in the Valley of the Mississippi, contagious ophthalmia appears, as far as we can learn, to be an endemic disease in certain districts; and these are the sources of the most aggravated cases which have fallen under our notice; and we are sure all Mr. Dixon's American readers will look especially to this part of the book, to see if he has anything to teach them on the subject.

The pathological lesion of "granular lids" was not known to the earlier writers on Ophthalmic Diseases. Its sequents of entropion, pannus, and chronic corneitis, in those who had suffered with Egyptian ophthalmia, had all been well observed, but their true cause had never been detected, from the fact that, before the time of Ware, who flourished in England about the beginning of the present century, no surgeon seems to have known how readily the lids could be everted. Ware was the first to describe this manipulation; but although he pointed out the mode of exposing the greatest seat of these granulations, the honor is not due to him of having first detected them. This belongs to John Cunningham Saunders, the founder of the London Ophthalmic Infirmary.

The latter surgeon has described them as though they originated from an ulcerated surface—that they were indeed *granulations;* and he has the credit of having given them this very name. His plan of treating them was just such as was resorted to in the management of exuberant granulations, that of excising them.

Since his time, the disease has been generally recognized. But with many its true nature, and more especially its causes, have not been properly understood.

Thus, some writers speak of these "granulations," as though they were really *granulations;* and others, as though they arose from one peculiar form of ophthalmia, or that they were attributable to the use of certain local remedies.

Thus Nelaton speaks of them as pathognomonic of Egyptian ophthalmia.

Lawrence has said that the disease "almost deserves to be named from its exciting cause, lunar caustic ophthalmia;" and Mackenzie, although inclining somewhat to Lawrence's views, believes, "neglect of proper treatment and especially of depletion, general and local, in the early stage of the puro-mucous ophthalmia, is the most frequent cause of this affection."

Our author does not commit himself very clearly on these points, which we think important, for, if the true nature and causes of this troublesome affection were properly understood, it would occur less frequently than it does. He speaks of the disease as the result of "purulent ophthalmia, and long-continued ophthalmia of a severe character," but does not deem it important to explain how these diseases result in such a state. His old master, Frederick Tyrrell, is so clear on this point, that we cannot refrain from quoting his remarks on the subject. He says:

> "I have shown that these affections, purulent and catarrhal ophthalmia, commence on the palpebral division of the conjunctiva, and from thence extend to the ocular portion. They disappear in the contrary order; leaving first the ocular part of the membrane, and that in which they appear last, and linger in the palpebral portion of the tunic, or that in which they first appear, and, in this division of the membrane, the morbid action may remain in so trifling a degree, as to escape the observation of the careless practitioner, who may be satisfied with the perfect restoration of vision, independently of slight occasional interruption from a collection of superabundant secretion." (Treatise on Diseases of the Eye, vol. i, p. 124.)

We would also take exception to the summary way in which Mr. Dixon dismisses the various remedies, beside the acetate of lead, which have been used for the cure of the disease in question. There are certainly some which, from the great frequency with which they are used, if for no other reason, deserve to be at least mentioned by him. We should be glad to have found his opinion more definitely expressed; for instance, on the use of the sulphate of copper and nitrate of silver, which he does not even mention, but which are so generally used, as to demand some expression of opinion even in an outline treatise on diseases of the eye. There are, undoubtedly, cases in which these remedies, especially the sulphate of copper, will prove injurious rather than beneficial, and when Mr. Dixon's favorite remedy will be of great service. It seems, however, important to us, that these differences should have been pointed out to the student by Mr. Dixon.

Most modern writers on diseases of the eye, speak of three varieties of *granulations*,—those which resemble the surface of a healthy or healing ulcer, those which consist of soft, flaccid, somewhat pediculated villi of a pale-red color, and those which are hard, pointed, dull-red, and projecting but little above the surface; and these differences we deem important, as demanding a resort to different means for the cure of the disease. The first variety, we are satisfied, yields more readily to the lead than other means, and is aggravated by the sulphate of copper; the second, we believe, will be found to be more readily cured by the alternate use of a weak solution of the nitrate of silver, and the stick of copper; whilst the third nearly always, in our opinion, requires a resort to the solid stick of sulphate of copper.

Our author does not labor as some writers do, to prove that there are any signs by which we can distinguish gonorrhœal from any other form of purulent ophthalmia, or even catarrhal ophthalmia, at its onset; although he states that this form of disease is often, if not generally, more rapid in its development and progress than any other. He also, and justly, we think, takes exceptions to the doctrines of many writers, that gonorrhœal ophthalmia usually attacks one eye only, and declares that he does not remember to have seen a well-marked case of gonorrhœal ophthalmia in which both eyes were not affected. As to the frequency of the disease in either eye, or in either sex, our author observes his usual silence; and in reference to the sources of the contagion, or origin of the disease, he is almost as much reserved, for he speaks only of a source of the disease in the *vulgar* practice of persons bathing their sore eyes in urine. The balance of his section on this subject is taken up with the details of the history of a case acquired in this way;—where a young man, by the advice of *his mother-in-law*, attempted to cure himself of an attack of ophthalmia, from the introduction of dust in his eyes, by washing them with his urine, he suffering at the time with gonorrhœa.

Our author next discusses the subject of the ophthalmia neonatorum. Here he, at the very outset, endeavors to enjoin on the student the fact (which is so often overlooked), that the most important point, and one to which he should first direct his attention, is the condition of the *cornea*, its clearness or opacity, and not the more obvious appearances of redness, swelling, and purulent discharge, which the eyelids present. This is often not easy to accomplish; indeed, with the inexperienced it is almost impossible. Their efforts to separate the lids nearly always resulting in their simply everting them, and the tumid mucous membrane bulging through the commissure entirely obscures their view of this important part.

He also points out the fact, that some of the discharge having become coagulated by the use of astringent washes, may be found lying over the cornea, and resembles very closely a slough of that structure, and may, by a hasty inspection, be mistaken for such.

Mr. Dixon's plan of treating this disease consists, in the mild forms, in the frequent use of mild astringent lotions, applied by means of a syringe. But in the severe forms, he says all local means may prove unavailing, unless the child be well nourished; he therefore observes that the health of the mother, "and her ability effectually to suckle the child, are most important points for the surgeon's consideration."

He further says, that—

> "Weakly infants are sometimes much benefited by giving them, daily, a few drops of Battley's liquor cinchoniæ in a teaspoonful of milk. Blisters," he says, and we doubt if he could say a truer thing, "only exhaust and irritate such subjects, and bleeding by leeches, even to the smallest extent, may destroy the last chance of arresting the progress of a corneal ulcer."

And finally, he observes, "to attempt bringing up by hand" a feeble infant affected with such ulceration, is to doom the eye to almost certain destruction.

Scrofulous ophthalmia, the form of disease of the eye characterized by the development of phlyctænulæ or pustules, Mr. Dixon considers a misnomer, for he says—

> "Although it is very frequently met with in patients who afford decided evidence of a scrofulous constitution, it undoubtedly affects others who have never shown any such tendency; and again, the *cornea* is the tissue in which the disease especially manifests itself, not the conjunctiva, which the conventional meaning of the word '*ophthalmia*' would imply to be primarily affected."

Chapter III is devoted to a short notice of the subjects of ecchymosis, œdema, fatty deposit beneath conjunctiva, cysticercus telæ cellulosæ, and chemical injuries. There is only one subject in the last section to which we would especially call attention. In this section on chemical injuries, he speaks of the disfigurement caused by the injudicious use of nitrate of silver, consisting in an indelible brown or olive colored stain of the conjunctiva. "This disfigurement," he says, "will not take place under judicious treatment; for nitrate of silver, which is so invaluable in catarrhal and purulent ophthalmia, exerts its beneficial influence within a few days, and its use can never be required for more than a few weeks at the farthest." There is undoubtedly a great deal of mischief done in this way, by the incessant and injudicious use of the nitrate of silver, but we do not think that many who see much of chronic ophthalmia will be willing to admit that nitrate of silver, "can never be required for more than a few weeks at farthest."

Mr. Dixon says nothing of the use of iodide of potassium, or any other remedies applied locally for the removal of this unsightly discoloration.

Under the head of Diseases of the Cornea, our author first alludes to the subject of *conical cornea*. In reference to the pathology and real nature of this rare affection, he candidly confesses the obscurity in which the subject rests. He gives the *quietus* to Sichel's doctrine, that the deformity is *always* preceded by a *central ulcer*, by stating the fact, which he has repeatedly verified, that in some of the most marked cases not the slightest opacity could be found, either at the apex of the cone or elsewhere. He states, however, as the only point in the pathology of the disease of which there seems to be any certainty, that in every instance where the cornea in that disease has been examined after death, the central portion or apex of the cone was found thinner than natural.

In the section on inflammation of the cornea, the reader will find Mr. Dixon expressing his conviction, and that too, in a very decided manner, against the treatment of this troublesome affection by active depletion in the form of a general and local bleeding, and the administration of mercury so as to affect the mouth, which is so generally recommended by those whose opinions are entitled to the utmost attention, from their large experience and high scientific attainments.

Mr. Dixon's work will prove invaluable to the young practitioner, if it does no more than to restrain him in his disposition to resort to violent or active depletory means for the relief of this affection. The poor victims of this disease, badly fed, puny, fretting children, whose stomachs and appetites have been spoiled by indulgence, by the parents, in cakes and candy, to stop their crying; and who have been cooped up in all probability in a hot smoky kitchen, are not such, in our opinion, as are likely to be benefited by *depletion* and *mercurialization*. "Under the steady use of tonics, especially iron, with or without quinine, the inflammatory symptoms," our author says, in these cases, subside; the vessels which had begun to shoot into the cornea dwindle and disappear, the haziness is lessened, the irritability of the eye subsides, and it is gradually restored to usefulness. Counter irritation by means of repeated small blisters to the temples, or behind the ears is an important aid to the tonic treatment. "In certain subjects," he further observes, "a few leeches occasionally applied to the temples afford great relief, but in the majority of cases they are useless, or even injurious, and aggravate, instead of lessening, that neuralgic character which the pain so often assumes when the fibrous tissues of the eyeball are inflamed."

Following this section on inflammation of the cornea, we have one on inflammation of the cornea with suppuration; then one on ulceration and opacities of the cornea. This, we doubt not, will strike most of Mr. Dixon's readers as an unnecessary *splitting of hairs*, in a work where so much condensation is required to discuss fairly all the subjects embraced in it; but the substance of these sections is of the utmost importance to be well understood; and although much space might have been saved by considering them together, as for instance in the repetition of the author's remarks against depletion, and in favor of the use of tonics in the latter sections; still all that he says we deem so judicious as to bear slight repetition, and to be worthy of careful perusal by all his readers. To some prominent points in the last of these sections, we will now call the attention of our readers.

Passing over his remarks on the care often required in the detection of ulceration of cornea, we make the following extract:

> "The edge of an ulcer in which the destructive process has ceased, and reparation begun, is always more or less hazy, and at the same time there will be found some vascularity of the sclerotic immediately adjoining the part of the cornea, where the ulcer is situated, and occasionally a fine vessel or a delicate plexus of vessels, may be traced from the vascular portion of the sclerotic to the border of the ulcer itself." (pp. 83–84.)

These remarks we deem of great importance, for, as our author observes, this vascularity is often regarded as an evidence of unhealthy action, whereas it is only the channel "through which the reparative material necessary to the filling up of the ulcer is conveyed to it."

When the ulcer perforates the thickness of the cornea, and *prolapsus iridis* ensues, our author says: "In some books on ophthalmic surgery, the reader is directed carefully to push back again, with a probe, such protruded portions of the iris; but he is not told how they are to be *kept* back." Nor does Mr. Dixon tell us how such an object may be attained. He seems, on the contrary, to consider efforts for such a purpose fruitless, and directs the surgeon to content himself with endeavoring "to produce speedy adhesion between the protruded iris and the edge of the corneal ulcer with which it lies in contact," "by a suitable tonic and stimulant treatment," and especially "by very carefully and lightly touching the parts with a finely-pointed stick of nitrate of silver."

We find nothing here in reference to the use of belladonna in such cases. The value of this remedy, so strongly insisted upon by Mackenzie, Tyrrell, and Wilde, deserved at least an allusion from Mr. Dixon. We have seen it of great service where the perforation of the cornea was but slight and recent. In such instances, its influence on the iris has been such as to cause the protruding portion to recede.

The frequency of corneal opacities is so great, and their deformity such, as to attract the reader's attention to the portion of Mr. Dixon's work devoted to their consideration. His views on this subject, although containing nothing new, are judicious, and consistent, as the rest of the work is, with the principles of a sound pathology. He alludes to the various forms and causes of these blemishes, and to the variety of stimulating drops, ointments, and powders which have been vaunted for their cure. In infancy, when the reparative processes are rapid and active, more or less transparency may be regained in some cases of opacity, and that, too, from ulceration. In such cases in adults, no such hope, however, can be held out to a patient.

> "*Time*," Mr. Dixon says, p. 88, "I believe, is the great clearer of corneal opacities; and the surgeon who is consulted respecting those which follow recent ulcers in children, may comfort the friends with the assurance that as the children grow up, the specks—they can never wholly disappear—will become smaller and less noticeable, provided no fresh inflammation should set in. If, however, the speck is of old date, and its margin abruptly defined, it is useless to attempt its removal."

As to the probable result of treatment of opacities not dependent on ulceration, but merely the result of effusion in the substance of the cornea, our author is totally silent. Such opacities, so frequently the sequelæ of scrofulous corneitis or granular lids, are spoken of by most authorities as amenable to treatment in a very great degree.

The resort to *operative* interference for the relief of opacities of the cornea, does not meet with much encouragement from our author. Dieffenbach's operation of excising a central leucoma, involving the whole thickness of the cornea, and bringing the edges of the wound together, and Dr. Nussbaum's more recent but less rational procedure of cutting a hole through the cornea and inserting therein a small piece of glass, meet from him the condemnation they deserve. In cases of opacity of a superficial character, from the deposit of lead, Mr. Dixon does, however, resort to an operation of scraping off the opacity.

In connection with this subject, Mr. Dixon mentions an exceedingly interesting case of calcareous deposit between the epithelium and anterior surface of the cornea, similar to a case which was met with by Mr. Bowman, about the same date of Mr. Dixon's observation. The deposit (in both eyes) gave the appearance, on a cursory observation, of the absence of pupillary orifices in either eye. It was in the form of a transverse opaque band, passing along the equator of each cornea so as entirely to hide the middle third of the iris; they had a brownish tint, closely resembling the irides. They were very superficial, and when removed by Mr. Dixon and examined by Mr. Thomas Taylor, were found to consist of flakes of phosphate and carbonate of lime. Mr. Bowman's case did not present the brownish tint in the deposit, but that of ordinary nebula.

The concluding portion of the chapter on the cornea is devoted to injuries of that structure and their mode of treatment, and is a condensed summary of what is usually done in the management of such accidents. The only matter of novelty to be noted here, is Mr. Dixon's mode of procedure in cases where the fragment of iron or other foreign body transfixes the cornea and projects into the anterior chamber, but is too deeply buried to allow of its seizure with the forceps. The great risk of the fragment being wholly pushed into the anterior chamber during the attempts at extraction, makes the management of such a case exceedingly difficult, unless some such expedient as Mr. Dixon's is resorted to. He says:

> "In such cases I have several times avoided this accident by first thrusting through the outer margin of the cornea, a broad cutting needle, and carrying it onward until its anterior flat surface could be brought into contact with, and pressed against the point of the foreign body." (p. 103.)

The sclerotic, its appearance in health, acute and chronic inflammation, staphyloma scleroticæ, and wounds and injuries of the sclerotic, form the subject of Chapter V.

The little brownish blotches near the cornea, from which small vessels emerge, are not regarded by Mr. Dixon as evidences of a congested state of the choroid, as they are thought to be by Dalrymple, Sechel, Mackenzie, and others, for he says he has repeatedly met with them in persons whose sight was perfect.

His enumeration of the symptoms of either the acute or chronic form of sclerotitis is very imperfect. There is no allusion to the constitutional disturbance so marked generally in the acute affection. Nor are any diagnostic marks given by which the disease can be distinguished from either inflammation of the cornea or iris; and these, we think, the author ought to have taken the pains to have furnished—having alluded to the fact that inflammations of these three structures are frequently associated together. The fact of attacks of sclerotic inflammation being so much modified by rheumatic complications, is the reason assigned by the author for not entering fully on the treatment to be pursued in the management of this disease. His chief dependence appears to be on quinine and purgatives, or colchicum. Blisters, in the acute form, aggravate, in his opinion, the neuralgic pains, which he believes are most effectually relieved by a liniment of chloroform and oil. Leeches, he says, only afford slight and temporary relief. Of general depletion in the acute stage he makes no mention whatever.

His remarks on the treatment of the chronic form are embraced in these few words: "In this chronic affection quinine is very useful; and blisters applied to the temple or behind the ear act most beneficially."

The treatment of injuries of the sclerotic, enjoined by Mr. Dixon, is very judicious; consisting "in maintaining the wounded part *in perfect repose*, both in respect to motion and light. A week or ten days is not too long a time for keeping the lids uninterruptedly closed without examining the injured part." In reference to ruptured globe, he says the surgeon "must not trust too much to energetic treatment;" for those cases seem to have done best eventually, where there was the least amount of interference with the reparative efforts of nature, but where the one essential, perfect repose of the injured organ, was secured. (p. 114.) The avoidance of mercury, a resort to anodynes, and the regulation of the patient's diet by the vigor of his circulation, are the general means indicated by nature and advocated by our author in the management of these injuries.

Chapter VI is devoted to the iris, its congenital defects and prominent diseases, and embraces very nearly fifty pages of Mr. Dixon's book. Of this chapter a large portion is, of course, devoted to the consideration of iritis. The varieties enumerated by our author are the traumatic, rheumatic, and syphilitic. Of the gonorrhœal and arthritic forms, mentioned by most authors, and especially by the German, Mr. D. is not aware of having even seen a single case; and he says, he would even hesitate to speak separately of scrofulous iritis, were it not for one patient, who came under his notice several years ago. It was in an ill-nourished boy, five years and a half old. The cornea was slightly hazy; the iris of a slate color, with dull red vessels running over its surface and above the pupil, and to its inner side lay an irregular, nodulated, yellow mass, precisely similar in appearance to the fibrin deposited in syphilitic iritis. Some yellowish fluid also lay at the bottom of the anterior chamber. There was no appreciable change in the form of the pupil.

> "The treatment pursued in this case was rather dietetic than medical, in the vulgar sense of the word. Two or three grains of hydc. cret. were given at bedtime; and some liq. cinch. once a day, but good beef-tea, and other nourishing food, were chiefly relied on."

By this means a cure of the disease was effected within two weeks' time.

This case of scrofulous iritis, we consider exceedingly interesting, and we think it will prove so to all Mr. Dixon's readers on this side of the Atlantic, who, we are certain, have frequent opportunities of observing the disease amongst our colored population, either north or south of Mason and Dixon's line. We can produce from our own records, four or five cases observed in as many months lately. But the case will prove valuable to us, not only as directing our attention very forcibly to the peculiarities of the disease, but, from the very happy result attending Mr. Dixon's mode of treating such cases, and which we ourselves are satisfied is the only judicious one to be pursued.

But to return to our author's chapter on iritis. He draws attention to the very great difference in the amount of irritation attending wounds of the iris without disturbing the lens, and those that are accompanied by displacement of that structure. As, for instance, the simple incised wound, in the operation for artificial pupil, is followed by very little inflammation, whereas, in the operation for cataract by displacement, should the lens be left pressing upon the iris, it will give rise to an iritic irritation, which will prove almost uncontrollable. So, also, in accidental wounds of the eye, should the capsule and even the substance of the lens be penetrated by an object wounding the cornea and iris, and their position be undisturbed as regards the iris, but little if any more inflammation will occur than will be required for the repair of the injury; whereas, let the lens be displaced and encroach upon the iris, and it will keep up irritation in that structure as long as it remains there. It is true, it will be eventually absorbed through the aqueous humor, but until thus removed, it will act injuriously, and sufficient time may elapse before it is disposed of to do irreparable mischief. It was in consideration of the evil consequences following this displacement of the lens, that Mr. Barton, of Manchester, Mr. Dixon tells us, was induced to suggest and try the operation of extracting the lens, and he has related the good results of such a procedure in several cases. This operation, as Mr. Dixon says, to be of any service at all, must be performed early, otherwise, fibrinous adhesions form between the iris and the capsule of the lens, which would hinder the extraction of the latter. (p. 130.)

Mr. Dixon makes a remark in reference to the use of mercury in the treatment of traumatic iritis, which, we doubt not, will surprise some of his readers, but which we believe will be sustained by careful observation. It is, that it has little effect comparatively in the cure of such cases.

Our author's distinction between the rheumatic and syphilitic forms of iritis, is very satisfactory. As regards the treatment of the first, he advises when the sclerotic and cornea alone suffer, active purging, bleeding from the temples by leeches, and abstinence from stimulating drinks of every kind, then quinine or bark, with hyoscyamus. Mercury is the remedy to be given whenever there is any tendency manifested to fibrinous effusion in the iris, whether the inflammation be of syphilitic origin or not. He says:

> "Subsequently, the success of this treatment (with mercury), depends on its being begun at an early stage of the disease. The fibrin then exists as a mere unorganized secretion, and even if very abundant, rapidly undergoing absorption, but when it has become consolidated, and traversed with bloodvessels, it yields much more slowly to medical treatment," &c. (p. 137.)

There is not a modern writer heretofore, who has not recommended, and in the strongest terms, the free use of belladonna or atropine, in the treatment of the various forms of iritis, not only for the soothing effect produced on the peculiar neuralgic pain of the disease, but chiefly, too, for the purpose of preventing one of its most injurious effects, closure of the pupil; we doubt not, therefore, that most of his readers will participate in our surprise on finding that Mr. Dixon declares them useless during the active stage of the disease, and injurious at a late period. Our readers must be satisfied from the insight we have given them thus far of Mr. Dixon's work, that he is a reflecting man, and a close observer; and will be willing, therefore, we are sure, to give great weight to all that he may say, especially if it be at variance with the generally received opinions, for *we* feel satisfied, that he would promulgate no new views merely for the sake of their novelty, but from conviction of their truthfulness. His opinions in this matter are, therefore, entitled to some consideration. Here they are:

> "Invaluable, indispensable as atropine is in our examination of many morbid states of the eye, I do not regard it as of any service in iritis; for, as I stated at the commencement of the section, an inflamed iris loses its power of motion. Atropine, therefore, must be *useless* during the active stage of inflammation. At a later period, when the iris is beginning to recover its motory function, it may, I think, even *do harm*, and in the following way: The hinder surface of the iris, termed "uvea," is covered with a layer of pigment cells. When fibrin is poured out behind the iris (which, no doubt, happens in all cases of acute inflammation), these pigment cells become, for a time, firmly united to the capsule of the lens; and if, when the iris is regaining its motory function, a forced dilatation of the pupil be effected by the influence of atropine, some of the pigment may be detached from the posterior surface of the iris, and left adhering to the capsule, forming those brown patches so familiar to us in patients who have suffered from iritis. Only get rid of the fibrin which is gluing the pigment cells to the capsule of the lens, and the iris is at once effectually liberated.
>
> "People sometimes talk and write as if occlusion of the pupil in iritis were the result of spasm of some sphincter muscle, the contractions of which could be paralyzed by atropine, and the pupil thus kept permanently dilated. But the real cause of closure is totally different from this. Fibrin is poured out from the surface of the iris and edge of the pupil upon the front part of the capsule of the lens, overspreading the latter, where it corresponds to the area of the pupil. Now, if this effusion is not quickly removed by absorption, it becomes organized, and forms a membrane stretching across and blocking up the pupillary opening. Gradually this membrane contracts, and in doing so draws together the edges of the pupil, until that aperture is reduced, in some cases, to the size of a pinhole."

Logical as all this may appear, are either the premises or inferences strictly true? Does the iris at the commencement of an attack of inflammation lose its power of motion entirely? Is the surface of the capsule of the lens, corresponding to the area of the pupil (unless that orifice is very small), overspread with lymph? and has that lymph a contractile power greater than that deposited on the posterior surface of the iris near its ciliary margin, and which can and does bind it to the edge of the lens? On the truthfulness of these propositions it seems to us that the correctness of Mr. Dixon's arguments hinges.

Had Mr. Dixon entered with any minuteness of detail into the symptoms characterizing iritis at the very outset of the disease (which he has not), we doubt not but that we could have convicted him of an error out of his own mouth, as regards the contractility of the iris in the acute stage of the disease. But the only expression he uses (and the one to which he refers in the quotation above), is "an inflamed iris loses its contractile power." This no one will deny, perhaps; but does no time elapse from the first manifestation of the disease till the intensity of the inflammation is such as to cause this loss of contractile power? Has Mr. Dixon never seen iritis in its incipiency, when the characteristic symptoms were sclerotic injection; tenderness of the ball; circumorbital pain; lachrymation; slight change in the color of the iris, and its motion *impeded*, "so that the pupil dilates and contracts slowly on the admission or withdrawal of light (Tyrrell);" and where, on comparing the two eyes, the one affected is observed to have its pupillary orifice smaller than that of the opposite eye, although it still has the power of dilating? Cannot belladonna or atropine be of *any* service in this stage of acute iritis? We certainly think it can, and we believe the experience of every surgeon will sustain us in such a belief. We therefore think Mr. Dixon has been too sweeping in his condemnation of these remedies. We agree with him that when the iris has become adherent to the capsule of the lens these remedies *will* prove injurious.

We must pass over what Mr. Dixon has to say in reference to the treatment of iritis, in which we find nothing worthy of special notice, although all he says we think judicious and well worth reading, and direct attention for a moment to Chapter VII, on Inflammation of the Iris and Cornea together. This disease constitutes what has been described by previous writers as Aquo Capsulitis, a name which, as Mr. Dixon justly says, ought to be erased from our vocabulary, as being based on false anatomy; there is no such structure as the capsule of the aqueous humor, a serous membrane and shut sac as it was supposed to be, and hence there can be no such disease as Aquo Capsulitis. Our author indicates by the name he has adopted the real nature of the disease, the symptoms of which he points out with conciseness and perspicuity. He states that its most frequent subjects are young persons, and that they require small doses of hyd. cum. cret. with tonics and iodine.

If the reader desires still further evidence that Mr. Dixon has only attempted to teach what he knows from personal observation, he need but to turn to his chapter (the eighth) on the choroid and retina, in which he will be struck by the author's extreme candor, in stating his inability to point out signs characteristic of inflammation confined to either of these structures. Now, inflammation of these structures has been described with so much minuteness, and their diagnostic signs detailed with so much precision by recent writers, especially the German and French, that this statement from one of Mr. Dixon's opportunities for observation, contrasts very strangely with theirs. Yet we believe it to be true in every sense. And we want no better evidence of Mr. Dixon's honesty of purpose than this confession.

We have ourselves frequently met with cases where there were none of the symptoms usually stated as indicative of disease of the choroid and retina, but which revealed by the ophthalmoscope most extensive changes in both these structures. "Such examinations prove," as Mr. Dixon observes, "how little dependence can be placed on those descriptions of 'choroiditis,' and 'retinitis,' as set forth by some systematic writers, who would teach us, from the condition of the pupil, the color of the iris, or the appearances noticed by the patient, to pronounce with certainty as to whether the choroid or the retina be the seat of disease."

We have before alluded to the contents of Chapters IX and X, the merits of which we should like to discuss more minutely if our space would admit of our doing so. But we have already exceeded the space assigned us for this review, and will not only have to pass over these, but also content ourselves with the simple enumeration of the subsequent chapters of the book, which we should have taken as great pleasure in examining as minutely as we have all the preceding ones.

Chapter XI, is on the lens and its capsule, and contains an account of the catoptric test; altered position of the lens; and the diseases of the lens, which, in Mr. Dixon's opinion, consists only of cataract; for this is the only disease of the lens he describes, or even alludes to.

Chapter XII is devoted to diseases which involve all the tissues of the eyeball, including, under this head, that very vague disease, glaucoma, scrofula, encephaloid, and melanotic deposit.

Chapter XIII contains some account of diseases of uncertain seat, namely, muscæ volitantes, long-sight, short-sight, and inability to distinguish certain colors.

Chapter XIV is on the lachrymal passages, their mode of examination, inflammation of the lachrymal sac, chronic distension, and treatment.

Chapter XV refers to the eyelids, entropion, ectropion, inflammation of the lids, hordeolum, tinea ciliaris, lippitudo, phtheiriasis, tumors, cysts, warts, and nevi, injuries, carcinoma, and epithelial cancer.

Chapter XVI, the orbit, diseases of parts surrounding and acting upon the eyeball, namely, protrusion of eyeball, and various displacements, orbital abscess, paralysis of third nerve, causing ptosis, &c., strabismus, affections of the oblique muscles, causes and treatment; and deformity following sometimes operations for strabismus.

The remainder of the work, including a little more than eighty pages, refers to operations, for cataract, displacement, depression and reclination, solution or absorption, operations on opaque capsule. The operation of extraction, for artificial pupil, for staphyloma, strabismus, and removal of eyeball; and these remarks, on the various operations in which, as the author tells us, he has confined himself to such a general description as may render the principles upon which they are founded intelligible to the student, are closed by some very judicious observations on the use of chloroform in operations on the eye.

Finally, the work contains a short appendix of cases, with some excellent woodcuts, and a plate of the instruments preferred by Mr. Dixon.

It can thus be seen by the reader, that Mr. Dixon has written an excellent manual on the eye; and we are sure that all who read it will regret that its author had not written more. It is true, that by doing so, he would have increased the size of his book, and thus, perhaps, altered its character as a manual; but there are, nevertheless, many points, to some of which we have alluded, on which he might, and, we think, ought to have spent more time. We ourselves part with the book as we would with an agreeable friend, whose company we regret we could not enjoy longer.

A. H.

ART. III.—*Leçons de Physiologie Expérimentale, Appliquée a la Médecine, faites au Collége de France.* Par M. CLAUDE BERNARD, Membre de l'Institut de France. Prof. de Médecine au Collége de France. Prof. de Physiologie à la Faculté des Sciences, &c. &c. Tome Deuxième. Cours du Semestre d'été, 1855. Avec 78 figures intercalées dans le texte.

No faculty necessary to make a great physiologist seems to have been denied to the author of the work before us. For ten years we have been accustomed to hear the name of Bernard coupled with discoveries of the utmost value to medicine, and have learned to listen with respect and interest to all that comes from his lips. Certainly, a more remarkable union of the inductive and experimental powers has rarely been met with in the same mind, and still more rarely have they been made use of with an industry so untiring, and a success so uniform.

Were any other proof wanting of the possession, by Claude Bernard, of the rarest intellectual gifts, the volume, whose title heads our page, would of itself be an ample warrant of the truth of our assertion.

In a brief introduction, the author points out the two modes of teaching which are at present in vogue. The one which is usually adopted in our colleges, consists in a dogmatic statement of the positive and applicable facts of a science. While the professor strings these together, bead-like, upon the thread of some accepted theory, he troubles the young student but little with the many doubts and difficulties which render medical opinions so changing, and often so short-lived. No doubt such a method of instruction makes the task of the beginner easy, but, on the other hand, it possesses this disadvantage, that he is liable to find himself, at the close of his curriculum, so fixed in certain views, that he is fortunate if the yearly changes in science do not find him indisposed to bend to the legitimate alterations which they are constantly effecting in the modes of thought and action of wiser, or more flexible minds. The other mode of teaching is, without doubt, better adapted to those who either find pleasure in a frank statement of all the facts of a given case, or who, themselves, are to be actively engaged in original research or study. That the method chosen by M. Bernard is well adapted for these latter purposes, we hope to show as we proceed, while, at the same time, it will be seen to have certain defects, inseparable, perhaps, from the very form of instruction.

In the volume before us, our author has given us, in the form of lectures, the results of a series of researches upon the glands, whose secretions take part in the digestive processes. No mere statement of his conclusions can give any idea of the charm inseparable from his manner of imparting his ideas. Thus, in place of a bare narration of his views, together with the facts, old or new, upon which they rest, he invites the reader, as it were, to enter his workshop, and view with him the action of the machinery by which these results are attained. For example, some point of physiological interest arises. It is pursued through its relations to chemistry, mechanics, and anatomy. Experiments upon animals, ingeniously planned, create new facts. The doubts, the difficulties, the failures are made present to the reader, or the hearer. The analyses are shown to the class, and finally, the resultant post-mortems are exhibited. Nay, the very disappointments which so often wait upon experimental inquiries, become the starting-points of new researches, and every link in the connected chain of reasoning is brought palpably before us. So aided, we sometimes accompany the teacher, in a single lecture, over researches which in some cases have extended through many laborious years. The pleasure and privilege of being thus admitted to view the mechanism of such a mind as that of M. Bernard, is not the least charm of his book. Appearing to recognize instinctively the delight with which we seek to learn how discoveries are made, he invites us to the closest psychological intimacy, so that we see, as we follow him, how he came to think of this or that point, and why he made such and such an experiment, and how it failed, and why it failed, and how then he varied the conditions, and began anew. Such a method of relation and teaching may be unfitted for the ordinary learner, but for the physician, it gives to the story of a scientific research, the variety and fascination of a voyage of adventure.

In the first lecture M. Bernard discusses some of the fallacies which seem to belong to the ordinary methods of physiological investigation, and points out that which he believes to be the best means of discovering the secrets of the human frame. Among the fallacies thus alluded to, is that of attempting to discover the function of an organ by mere inspection of its anatomical arrangements. The acceptance of such evidence singly, has been fertile of error. It is rare that mere structural study of dead tissues, however aided by the lens, will enable us to assign to any given organ a certain function. Anatomy can but analyze the machinery when the works have stopped; and what more than a fair guess could we make as to the uses of a complex machine, which we saw only in a state of rest? Give to it the life of motion, and it will often explain itself, at once, to the eye of educated intelligence. How far more complicated than any mechanism of mere human design, is that of the simplest animal function, we need hardly remind the reader. If then we are to study successfully the workshops and factories of the body, we must study them while active and alive, and laying aside that mode of investigation which contents itself with questioning form as to function, must resort to quite a different mode of research. Such a method, which M. Bernard terms the physiological, or functional, as distinguished from the mere anatomical, consists in the pursuit of a function or vital action throughout the organism, until, by sufficient evidence, we are able to localize it in some particular organ, or set of organs. Thus we end by fitting the vital act to the organ, whereas, by the other method, we fit the organ to the act.

"You have no doubt, observed," says our author, "that in our researches, we have not been guided by any preconceived ideas of anatomical localization, and that it was not by asking what might be the functions of the liver, that we have arrived at this discovery." (That of the glycogenic function of the liver.) On the contrary, in our mode of procedure, the anatomical localization of a function has been but a result of physiological investigations. We have followed a phenomenon, that of the diverse mutations of sugar in the animal, and have thus arrived at the knowledge of a fact, hitherto unknown, namely, that the liver of man and animals is constantly engaged in the formation of this substance. To this mode of investigation, anatomical knowledge is only incidentally necessary. As it deals with life, it demands the aid of vivisection at every step. The knife of the operator lays bare the living, active organ, and enables us, as M. Bernard has elsewhere remarked, to carry the torch of analytic chemistry into the midst of an organism still throbbing with vitality. An exposition by lectures of a research so conducted, brings us, as it were, face to face with phenomena, and might almost be entitled to the name of clinical physiology.

Chapter Second treats of thehistory of the anatomy of the glands, whose secretions enter the mouth, of their comparative anatomy, and, in fact, of all that can be learned by mere inspection, however skilled. We are here reminded, again, how negative is the evidence of anatomy as to the functional distinctions between the several salivary glands. A parotid cell resembles indifferently a cell from the submaxillary or sublingual glands, and is equally like those which make up the pancreatic tissue. On the other hand, physiology readily succeeds in assigning to these several glands offices which no anatomical skill could suspect them to possess.

With this assurance, M. Bernard begins with us the study of the parotid secretion, as the most important of those furnished by the salivary glands. In looking for a clue to conduct us into this research, we are struck with the fact that the parotid gland accompanies the possession of teeth, and that, in any given animal, its size bears a certain relation to the importance of mastication. Thus, the birds who do not crush their food, have no parotid glands. The ruminants have it amply developed. The carnivora, who are hasty feeders, and "bolt" their food, have but small parotids, while marine animals, as the seal, whose food is always watery enough, have this gland far less developed than we find it in the terrene animals who most nearly approach them in structure.

The hint thus given leads us to suspect the existence of some relation between the amount of water in food, the extent of mastication which it exacts, and the supply furnished by the gland under study. This suspicion is answered affirmatively by the results of experiments, some of them old, and some recent. We learn thus, that the drier the food, and the more chewing it requires, the larger is the supply of parotid fluid: that it flows freely during mastication, and ceases to flow afterwards, and that, if we chew on the left side, the left parotid is the most active, and that when we chew upon the right side the reverse occurs. Finally, the fish, since he lives in water, has hardly any parotid saliva, and in land animals, when drinking, the gland ceases to act.

It was long believed that these various effects were due to the pressures, etc., exerted during mastication by the muscles engaged in the process. The insufficiency of any such idea to explain the facts above stated, as well as the influence of emotions upon the salivary flow, induced M. Bernard to test the governing powers of the nerves over this secretion. Galvanization of the inferior maxillary branch of the fifth pair of nerves, or the facial portion of the seventh, was found to augment the flow of parotid saliva, upon the side whose nerves were thus excited. Combining this evidence, it seems to be clear that the fluid of this gland is intended to render mastication more easy, being made use of mechanically, to moisten and soften the food during this action, so as to facilitate the digestive processes which follow. Digestion, indeed, can be shown to be more or less productive of nutritive results according as the food is more or less completely comminuted.

In physical and chemical composition, as has long been known, the saliva of the parotid is merely an aqueous fluid, always alkaline, and containing some little saline and albuminous matters.

The next lecture begins with a description of the mode of producing a fistula of the submaxillary gland, an experiment which is original with M. Bernard. The operative procedure is described with extreme minuteness, and here, as elsewhere, the age and appearance of the physiological patient are dwelt upon, and even his conduct, under these rather trying circumstances, described with care and patience. We are especially struck with the fact, more than once alluded to, that "the animal did not seem to suffer." Whether the dog Parisian is deficient in powers of expressing his feelings, or whether a very commendable respect for science, and for M. Bernard, restrains his emotions, we confess ourselves unable to say.

The fluid obtained through the artificial fistula of the submaxillary gland is totally different from that of the parotid. As it flows drop by drop from a tube placed in the duct of Wharton, we observe its viscid nature and its highly alkaline reaction, while, on cooling, we see no such deposit of carbonate of lime as usually occurs in parotid saliva. When heated, it swells, but does not coagulate. What, then, is the use of this viscous alkaline fluid? A hint as to its office is obtained by observing how it leaps in jets from the duct of Wharton, when we are strongly impressed with the smell, or even the thought of some agreeable sapid body. Has this gland, then, any connection with the sense of taste? To answer this question, another unlucky dog is chosen. Tubes are slipped into his parotid and submaxillary ducts, and the lingual branch of the fifth pair of nerves is exposed to view. This nerve-twig, commonly regarded as the nerve of taste, is now divided. Galvanic irritation of the peripheral portion gives no result. Like irritation of the central end, produces at once a flow of saliva from the submaxillary gland, but none at all from the parotid. This lingual nerve being the nerve of gustation, any irritant acting on the portion still in connection with the brain, will despatch to that organ an impression of such a character as would ordinarily have reached it when the papilla of the tongue were stimulated by a sapid substance. The reflex impression, which sets out from the brain, and finally stimulates the gland to act, is conveyed through the chorda tympani nerve to the submaxillary ganglion. In proof of this, direct irritation of this ganglion likewise stimulates the gland. When the tissue of the gland is directly galvanized, no effect is induced; so that the intermediation of nerves appears to be essential.

To complete this chain of evidence, M. Bernard proceeds to show that certain gustatory impressions exert a very curious influence upon the flow of the various salivary juices. For this purpose, another canine victim is provided, and artificial exits created for each of the principal salivary fluids,—parotid, submaxillary, and sublingual. Vinegar, aloes, quinine, &c., are then placed successively upon the tongue. It is found that in each case, the submaxillary saliva flows freely, while but little runs from the other glands. Water does not seem to increase the flow from any of the glands. Finally, the proof of connection between the sense of gustation and the tide of submaxillary secretion, is strengthened by the fact that the animals who chew sapid food—the carnivora, for example—possess large submaxillary glands; while in the grain-eating birds, whose food is comparatively insipid, this gland almost disappears from anatomical view.

The sublingual gland is studied in the same manner as the larger glands, and, together with the gland of Nuck, is grouped by M. Bernard along with the mucous or muciparous glands of the mouth. Like them, these two glands secrete a glutinous fluid, which is unlike the thin parotid juice, and which is also separable from the submaxillary fluid, by the fact that it gelatinizes upon cooling.

In connection with the salivary glands, we notice some extremely ingenious experiments upon the elective elimination of certain substances from the blood.

If, for instance, yellow prussiate of potash, iodide of potassium, and grape sugar be injected at the same time into the blood, the iodide appears in the saliva at once; the prussiate in the urine alone, in seven minutes; and the sugar in the same fluid, in twenty-five; at the end of three hours, the iodide can be found in the urine; but neither the sugar, nor the prussiate, are at any after-time appreciable in the saliva. The lactate of iron is another salt which never passes from the blood into the saliva. Iodide of iron, however, is readily eliminated by this route; when therefore, a solution of lactate of iron is placed in the stomach, it is soon discoverable in the blood, but does not pass out with the saliva; if iodide of potassium be now thrown into the same stomach, decomposition occurs, iodide of iron is formed, and within a few minutes is discoverable by tests in the saliva. If, in place of being thus brought into contact in the stomach, these two salts meet in the blood; no decomposition occurs, and the iodide alone is eliminated by the salivary glands. This influence of the blood in preventing certain chemical combinations which take place with facility in the stomach, is a fact which has other examples than the one now stated, and is well deserving of more ample attention than it has hitherto received.* The remaining experiments in the same connection, prove that the salivary ducts are capable of absorbing certain substances with great ease; owing to this, the right parotid gland may be absorbing iodide of potassium injected into its ducts, while the other parotid is eliminating the same salt from the blood. Still more curious is the fact that prussiate of potash is easily taken in by this route, but, as we have seen, is never excreted by it. The only exception to these laws of elective elimination occurs when the blood is so loaded with *any* soluble salt as to have its composition considerably altered, and to subject to serious accidents, the being in whose vessels it circulates. Under these circumstances, even prussiate of potash may appear in the saliva, as well as in the urine.

We cannot avoid agreeing with M. Bernard in his remarks at the close of this chapter, upon the fallacies which have hitherto surrounded every attempt to calculate the whole daily amount of the salivary juices. In fact, we have not as yet the elements for such a calculation; nor is it safe to apply to one animal as man, the results obtained from experiments upon another, as the dog. If indeed, the flow of saliva varies with the activity of mastication and digestion, with every new gustatory impression, and even with the period of the day, while at the same time the flow from a right parotid gland is no index of what the left one is doing, how vain must be the attempt to calculate the flow of a day's saliva during one hour, and then multiplying this result by the hours of the day, and observing how much saliva is formed for each pound of weight, to fit the result to man, by a comparison of his weight with that of the dog thus treated. The same kind of criticism applies equally well to all the estimates of this kind hitherto made. The calculation of Bidder and Schmidt states the amount of saliva at about 20 oz daily, for a man of ordinary weight. If this be anywhere near the real quantity under common circumstances, what amount a tall Western student must evolve under the joint effect of six hours of lectures, and unlimited tobacco, is a question of considerable difficulty. The conversion of the pine floors of our lecture rooms into fine dark mahogany, would, we think, speak volumes, not figuratively, but literally, as to the maximum possibilities in the way of salivary supply, upon this side of the Atlantic at least. Professor Draper, of New York, who seems to have a Briton's aversion to our national habit, in speaking of its effect upon the chemical constitution of saliva, makes some pleasant little suggestions to the brethren of the weed, which we recommend to their grateful attention.*

---

* Notes on M. Bernard's lectures on the blood; with an appendix. By Walter F. Atlee, M.D., Philadelphia, 1854, p. 32.

Chapter Sixth completes the subject of the salivary functions. Being in the form of a lecture, it discusses certain minor and disconnected facts, as they suggest themselves to the speaker. The most curious of these wayside discussions concerns the long-mooted existence of sulphocyanide of potassium in the saliva. Those who desire to see the previous history of the subject, will find it in Lehman's Animal Chemistry, and more especially in the additions at the end of the third volume, London, 1854. M. Bernard's researches are of a still later date, and, as they contradict more or less a large number of German researches, are likely to be pretty freely canvassed. On the whole, M. Bernard agrees with Berzelius, in denying the existence of cyanogen in perfectly healthy saliva. Nevertheless, he thinks it probable, that many accidental circumstances, such as carious teeth, may determine its production, and on the whole, leaves the subject in very considerable doubt. We observe that he still speaks of the sulphocyanide as a very poisonous body. We supposed that the contrary had been long ago established by Marchand, and still more lately, by the direct experiments of Wohler and Frerichs. At a time when it was generally considered to be an active poison, its presence in the saliva was the source of many very wild speculations in connection with hydrophobia.† Eberle believed, that saliva, passed under the influence of agreeable thoughts, was free from sulphocyanide, while that which flows when we ponder over unpleasant things, or think about our enemies, becomes instantly charged with the salt in question.

The views of M. Bernard in regard to the formation of tartar on the teeth are altogether original, and we think hardly tenable. In his opinion, the tartar is caused by "an irritation of the alveolo-dental periosteum, owing to the pushing down of the protecting gums by fragments of food during mastication." Now, tartar contains from 60 to 80 per cent. of phosphate of lime, with 10 or 20 per cent. of animal matters; while mixed saliva contains so little of the lime salt, that in some analyses it is set down as "a trace," or neglected altogether. On this account, M. Bernard considers as insufficient, the ordinary explanation which ascribes the formation of tartar to an evaporation, or decomposition of the mixed saliva, and advances the theory above stated. He therefore accounts for the formation of tartar, by regarding it as an abnormal secretion from the denuded dental periosteum. We fancy that our dentists will scarcely coincide in this opinion.

It is within every one's experience, that tartar forms not alone at the alveolo-dental margin, but higher up, and also upon the lateral angles of the teeth, while the deposit occurs, not from below, but on top of the tartar already deposited, so as sometimes to constitute considerable masses of calcareous matter. How then can it have the origin which M. Bernard assigns to it? Every one is aware, too, that it is formed most largely at night, when, as gustation and mastication are in abeyance, the saliva flows in minimum amount. This, together with the other considerations advanced by M. Bernard, enables us to follow him so far as to admit that the deposit of tartar from the saliva *alone*, is at the least improbable. During the night, however, the mouth is chiefly lubricated by the buccal mucus. That it contains phosphate of lime, the analyses of Bidder and Schmidt sufficiently prove. Is this not a possible source of tartar, or, at least, an additional source? That it, or the saliva, contains but a small amount, hardly weakens the case. Oxalate of lime is found in urine in quantities so minute, as to baffle quantitative determination. Yet calculi of oxalate of lime are only too common. When we remember at the same time, that tartar is freely deposited upon artificial teeth, and when we add to this, that every cause productive of pathological changes in the buccal mucous membrane, increases the deposit of tartar, and when we are reminded at the same time how the phosphate of lime element increases in diseased mucous discharges generally, we shall see that M. Bernard's view of this matter is at least not so perfect as to be above all critical attack.

---

* Draper's Physiology, p. 47.

† Wright, in the Lancet, 1842.

In concluding his admirable study of the saliva, M. Bernard especially insists on its mechanical relations to mastication, gustation, and deglutition. In the thin parotid fluid he recognizes a liquid of the utmost utility, as an aid to mastication, while in the other and thicker juices of the various glands, he sees antifrictive and lubricating agents calculated to facilitate the action of swallowing.

The vexed question of the conversion of starch into grape sugar, concludes this lecture. M. Bernard is of opinion that "the role of saliva in the chemistry of digestion is insignificant, if not altogether null." It is certainly true that the buccal mucus, and even the pure saliva of the parotid gland will convert *boiled* starch into grape sugar; but *boiled* starch is not the common food of animals, and even if it were, since the gastric acid effectually checks this change, the time for any such conversion would be but brief; being limited to the period occupied in mastication and deglutition. Consequently, our author infers that the mixed saliva has but little chemical utility in digestion, and that, as this necessary conversion of starch into grape sugar is provided for elsewhere, not only as regards boiled, but also raw starch, we are justified in regarding the saliva as fulfilling no other functions but those of a purely mechanical nature.

M. Bernard next proceeds to the study of the pancreas, the so-called abdominal salivary gland. Its anatomical and physiological history receive a brief attention, and we are thus brought up to the date of 1846, in which year our author first directed his mind to the character and uses of its secretion. In accordance with the initial precepts of this volume, the anatomy of the pancreas is first studied, not as a primary means of discovering its function, but as a proper and cautious preparation for the numerous vivisections which are to guide us to the truth. The chief useful anatomical fact which we thus acquire, is that man, and many animals possess at least two pancreatic ducts; and that in birds this organ is multiple. We are thus prepared to follow the lecturer in his experimental illustrations of what he believes to be the function of the pancreas.

Long previous to 1846, Doctor, now Sir Richard Bright, of London, detailed a series of cases, by means of which he established a relation between the existence of fatty diarrhœa, and that of pancreatic disease. Dr. Bright did not avail himself further of the hint thus afforded, and so failed to add another illustration to a name which has the rare honor of being so wedded to the nomenclature of disease, that it must be as immortal as the gratitude and sufferings of mankind. The essay of Dr. Bright attracted no attention to the normal function of the pancreas, until M. Bernard began his researches, when it was at once seen what a new and admirable proof of his conclusions was deducible from the information it afforded.

In the year 1846, our author placed in the stomach of a rabbit an ether solution of fat, intending to follow its changes along the intestinal track. He observed that it underwent no alteration until it had descended about twelve or fourteen inches below the pylorus, when it became emulsified, as if it had been shaken up with an alkali. At this unusual point, far below the mouth of the biliary duct, the pancreatic gland in this animal discharges its secretion. Was the change in the fat due to their reaction? A long series of experiments have answered this question. A series of experiments which are marvellous to read, if only as examples of industry, experimental enterprise, and powers of detailed observation and inductive sagacity, such as only too rarely for science are united in the grasp of any single individual.

Passing over the numberless details of his several experiments, we will endeavor to lay before the reader the general results, and the proofs on which they rest.

The pancreatic juice is obtained from animals by means of an artificial fistula. A tube inserted into the exposed pancreatic duct, directs the secretion into a gum bag, from which it is drawn as needed. The normal fluid obtained with proper precautions, is a colorless viscous fluid, without odor, and possessing a slightly saline taste, like that of blood. A constant alkalinity marks this fluid. Heat coagulates its whole bulk; nitric, sulphuric, and muriatic acids have a like effect, while alkalies do not alter it, and even redissolve the precipitates due to the acids above named. Since, in addition to these facts, we are told that acetic and lactic acids have no action upon it, we should thus have every chemical right to regard the organic material of the pancreatic juice as albumen, were it not, that unlike albumen, it is redissoluble in water after precipitation by alcohol. Slight as this chemical distinction may appear to be, the physiological resemblance between these two substances is yet more remote; another example of two organic substances, chemically allied, and widely apart as to function.

Although no fluid in the body save blood contains so large a share of albuminoid material as the pancreatic juice, every previous estimate has understated its amount. This arises from the fact, that in every such instance an abnormal secretion has been examined, in which, as M. Bernard has very well shown, the organic matters are so lessened, and the salts and water so increased, as to make it seem to approach in composition the saliva, with which it has been so long and so improperly confounded as to character and function, as to have given to its gland, the name of the abdominal salivary gland. In this peculiar organic matter our author recognizes a ferment, analogous in composition both to albumen and casein, but identical with neither, and constituting, in fact, the active and essential portion of the pancreatic juice. The functions which he supposes it to perform may be briefly stated.

The pancreatic fluid possesses the power of emulsifying oils and fluid fats, so as in some way to qualify them for admission into the blood.

The starting-point of the research out of which this proposition grew, has been already indicated. Nature had anticipated the wants of the experimenter in causing the pancreatic duct of the rabbit to enter the intestine at some distance below the bile duct. At, and after passing this point, the oils were emulsified, and the lacteal vessels began to exhibit that milky look which declares the existence of fat in their interior. A multitude of examinations of animals confirmed the general truth of this fact. If a portion of pancreatic juice be lightly shaken up with oil, at the temperature of the body, an emulsion is at once formed, so perfect in character, that it remains unchanged for an indefinite period, and is not altered by the addition of water. No other animal fluid offers a result so complete. Bile, which has some emulsifying power, separates from the oil within half an hour, and saliva, and serum, afford similar but still more imperfect results. It was naturally presumable that the highly alkaline nature of the pancreatic juice contributed to this result, since alkalies possess to a high degree the power of emulsifying and saponifying fats. As illustrative of this, we may add, that occasionally, a saliva of so alkaline a character is secreted, that it is found to produce this effect. But saliva, however alkaline, when neutralized with any acid, as for instance, gastric juice, has no power whatever to emulsify fats. On the other hand, acidulation of the pancreatic juice leaves it in full possession of this quality. It follows from this, that the alkali is not the active principle of the pancreatic fluid.

If, now, we precipitate the organic material of this secretion by alcohol, and then redissolve it in water, we shall still have a fluid capable of affecting oleaginous fluids in the manner just described,—a result which leaves us in no possible doubt as to the organic material being the effective constituent of the secretion in question. M. Bernard has also shown that this organic substance, after lengthened contact, decomposes the fats and oils into their several fatty acids and bases. Butter, for instance, is thus split into glycerine and butyric acid. This result, which is indicated by the acid reaction of the mixture upon blue litmus, appears at the close of four or five hours. So invariable are the two results, so constantly does pancreatic juice emulsify and decompose fats, and so constantly do all other gland fluids refuse to produce this change, that M. Bernard proposes it to the anatomist as a test for the actual existence of a pancreas in doubtful cases, among the lower animals. It should be understood, at the same time, that the tissue of the gland, as well as its secretion, may be made use of for this purpose. So novel an application of physiology to anatomical research is at least worthy of passing comment.

Experiments upon living animals further confirm the two propositions of M. Bernard. If the digestion of fats depends upon the pancreatic juice, any cause which deprives digestion of this fluid, will necessarily check this process, and we shall then find the unaltered fats in the small intestine, and in the alvine evacuations. Such a state of things was found to exist in the cases reported by Bright, where disease suppressed the secretion of the pancreas, and a diarrhœa of fats resulted. Although admirable as a confirmative means, the experiment thus made by disease did not fully satisfy M. Bernard, because the destruction of the gland, and the consequent loss of secretion was never quite complete. To set the question at rest, therefore, our author attempted, as Brunner had previously done, to remove the pancreas. Death inevitably followed the operation. Ligature of the ducts was next resorted to, but it was soon found that the continuity of the ducts became re-established by a curious regenerative process which M. Bernard describes in detail. This apparently ready mode of checking the flow of pancreatic secretion was, therefore, laid aside like the first one. Thus baffled by death on the one hand, and by the ingenuity of nature on the other, M. Bernard, with his usual fertility of resources, adopted a third, and eventually more successful process. It occurred to him that the secreting powers of the gland might be injured by the injection of substances into the ducts. After many failures, it was found, that when a small amount of fluid fat was thus injected, the secreting tissues of the gland became atrophied, and the ducts remained intact, like the twigs and branches of a leafless tree. In many of these cases the dogs died. In others, they became, to appearance, well, grew extremely voracious, and finally perished from marasmus. In every such instance, the animal passed the fatty portions of his food unaltered,—while, when this failed to occur, the post-mortem search always showed that the destruction of the gland had been incomplete.

Injections of blood, ether, air, and mercury, were also made use of, but they usually excited violent inflammation of the gland, and even of the peritoneum about it, so that no directly useful results were thus attained. The presence of oils, on the other hand, produced, when successfully employed, a mere atrophy of the secreting structures. From this point of view, it is impossible to think of these admirable experiments without having recalled to mind those pathological injections of gland ducts, which are sometimes the consequence of disease. Among these, the changes which the renal tubules undergo, when filled, from any cause, with coagulated fibrin, are most familiar. The loss of secreting power under these circumstances, is also well known, and we cannot avoid seeing that the solidification of the fibrin in contact with the secreting cells, may have some share in the result.

The pancreatic juice, then, is concerned in the emulsification and decomposition of fats. Disease, artificial digestions, and numerous vivisections, combine to offer us proof of this.

The fats thus prepared are now ready for absorption. Do they enter the blood through the lacteals, or by the portal vein? This is a less simple query than would at first appear, since the mode by which the fats pass through the tissues, as well as the changes undergone in this passage, are as yet among the unsolved problems of our science. It has been generally supposed that the fats, when emulsified, readily permeate the intestinal tissues to reach the vessels, or as easily pass through the cell walls of the lacteals, which are believed to possess a selective power. We are unable, however, to imitate this apparently simple physical process. When we place an emulsified oil on one side of an animal membrane and serum on the other, the aqueous portion of the emulsion goes through, unaccompanied by the fats. We know, however, that the emulsified fats of the intestine do reach the lacteals in this condition; and it has recently been shown, in Germany, that the bile assists in this, by lubricating the intestinal walls, so as to permit of the direct contact of the emulsified oils, which could scarcely occur so well were the intestine moistened with water alone.*

Whatever may be the more immediate character of the process, M. Bernard is of opinion that the bulk of the digested fats pass through the villi, and enter the lacteal vessels, in all animals belonging to the class of mammalia, while he admits that a smaller amount of oleaginous material at the same time enters the portal radicles. In birds, reptiles, and fish, the lacteal vessels have no longer a right to the name, since they do not present a milky look after the digestion of fats, and since they contain at this period no emulsified fats. In these classes of animals, the digested fats pass, by direct imbibition, into the portal system of veins. Yet, for some unknown reason, nature still seemed resolved that they should not pass wholly through the liver, and accordingly, in these animals, we find a direct route (the venous system of Jacobson) from the portal vein to the ascending vena cava—a route, by which a share of the portal blood, with its absorbed fats, is thus poured at once into the general tide of the circulation. It arises from these facts, that both in mammals, birds, reptiles, and fish, the fatty results of digestion are, for the most part, conveyed to the blood by a road different from that which is chosen for the passage of the other products of intestinal manufacture.

The anatomical facts upon which these inferences rest are, no doubt, correct; yet, while the appearance of added knowledge will always be agreeable, every thoughtful reader must see that the presence of a complex mechanism (the villi and lacteals) for fatty absorptions, in the one case, and their total absence, in another, only serves to renew for us the problem of fatty absorption in a yet more complex form.

Dismissing this baffling question, M. Bernard proceeds to consider the role of the pancreas in the conversion of starch into grape sugar. Reminding us anew that this conversion is essential to absorption, and recalling the fact that the saliva fails to effect this conversion, M. Bernard shows that the pancreatic juice possesses this power over boiled starch, and that when the pancreatic secretion is absent from the canal, this part of digestion is rendered incomplete. We learn from M. Bernard's researches that the saliva is chemically competent to change starch into sugar—that the gastric acid checks its action immediately, and that the pancreatic fluids complete this conversion. We shall see, further on, that they act thus upon unboiled, as well as boiled starch, provided it has been previously digested with gastric juice.

---

* Even with the assistance of this idea, we are still at some loss to comprehend the process in question. The main difficulty, of course, lies in our inability to repeat, external to the body, an experiment apparently so simple as that of the endosmosis of emulsions. It is to be remembered, however, that other physiologists have found this more easy than M. Bernard seems to have done.

Lastly, so far as regards the passage of fats into the cells of the villi, it is to be observed, that even if we regard it as a mere physical act of imbibition, so delicate are the walls of these cells, as to put all imitative experiments at utter defiance. The conditions of the natural phenomenon are, and must be incomplete, in any attempt to reproduce it artificially.

The third function of the pancreas we prefer to consider in connection with the joint action of the gastro-intestinal juices.

Preparatory to studying the conjoined action of the digestive juices, our author discusses with his usual skill, the question of the nature of the gastric acid. There seems to be no doubt, that at least in the dog, this acid is the lactic. A host of researches in Germany and elsewhere, renders the application of this fact to man rather doubtful. We may add, however, that the majority of physiologists incline to this belief, while others still believe, and with some reason, too, that chlorohydric acid is the acid of human gastric juice. Indeed, the experiments upon both sides of the case, as regards man, are to appearance, at once so decisive, and so conflicting, that we are led to suspect that lactic, butyric, and muriatic acids may all exist at times in the stomach of man. Meanwhile, it is comforting to learn, that any one of these agents is quite competent to the business of stomachal digestion. A diluted acid, and a coagulable albuminoid ferment called pepsin, are the two essentials: neutralize the acid, whatever it be, and the process stops; coagulate the pepsin, and a like result is brought about.*

This gastric juice is the first truly digestive, or solvent fluid, and M. Bernard assures us, as the result of many experiments, that the saliva does not aid it in the chemistry of digestion, however important may be its share in the mere mechanical operations essential to that process.

Our author sums up his account of the gastric juice by showing the curious analogy between its effects upon the different classes of nutriment, and those which are exerted by prolonged boiling in water. Thus boiling water melts the fats, and the stomachal temperature produces the same effect, neither agency altering their chemical composition.

The action of boiling water upon starch-cells, cracks and splits their walls, and allows the contents to become hydrated. Gastric juice brings about the same state of things, by dissolving the nitrogenous tissues which form these cell envelopes, and so freeing their contents. Usually in this case, as in that of the fats, no chemical change ensues, since the gastric juice has no sugar-making power, and the saliva has ceased to act.

---

* Page 414, et seq., gives an account of the variations in digestive power which are met with in specimens of gastric juice from various animals. The gastric juice of the rabbit, horse, and grain-eating bird, scarcely acts on muscle, while that of man and the dog, is alone able to dissolve the gelatinous structure of bones.

Occasionally prolonged contact with either gastric juice or boiling water converts cane sugar into grape sugar.

The effect of both of these agents upon albuminous matters is not less analogous; and, although, the result may differ in degree, it might almost be said to be identical in *kind*. In both instances the connective tissues are dissolved, so that on cooling, a gelatinous mass may be obtained in both cases, if we take the precaution to neutralize the gastric acid, which otherwise interferes with this process. The bony particles and the muscular fibres are thus disintegrated and softened, but never completely dissolved.

It is not a little amusing to be carried back in this fashion to the old view of coction, as explanatory of stomachal action.

In the condition above described the mingled results of gastric digestion enter the small intestine. Here it will be better to consider the action of the bile and pancreatic juice consecutively, although in most instances, they act together and at the same time. According to the views of M. Bernard, and most physiologists, the bile effects at once a precipitation of such gelatinous and albuminous matters as may have been previously dissolved in the stomach. At the same time the remaining albuminous matters are impregnated with bile, the fluid fats are perhaps slightly emulsified, and the amylaceous substances left unaltered. The same agency in the bile which throws down the dissolved albuminous material, also precipitates the stomachal ferment pepsin, so that reacidulation of the duodenal contents does not restore to the component gastric juice its original powers. This is very well illustrated by those cases of indigestion where bile flows into the stomach, and for the time paralyses its digestive activity. We may thus regard the act of digestion as checked by the bile. It is finally completed by the pancreatic juice, which, as we are now prepared to hear, acts upon each and all of the various nutritive and calorifacient substances upon which we feed.

If then this secretion be added to the mixture which we have supposed to exist in the duodenum, all the solid nitrogenous matters become dissolved, so that, both that which the gastric juice dissolved, and the bile threw down, and that which neither of these fluids did more than soften, attains alike a fluid condition, under the solvent influence of pancreatic juice. Every link in this chain is essential, and the pancreatic fluid has no power over the products of gastric digestion unless the bile has intervened previously, as in the rabbit, or acted conjointly with it as in man.

The changes which the pancreatic secretion effects in fats and oils do not require the presence of bile, and have been already dwelt upon sufficiently.

The conversion of starch into grape sugar requires either that the starch shall have been boiled, or that it shall have been exposed for a time to the disintegrating powers of gastric juice. Thus prepared, it undergoes this change with great readiness, and is finally converted, at least in part, into lactic acid.

In order to give continuity to our analysis of M. Bernard's opinions, we have followed the main thread in each case, often bringing together certain portions of the book which are separated in the text; but which treat of the same subject. This plan of review has obliged us to dismiss for a time several minor researches upon which our author digresses occasionally, to the temporary neglect of the principal topic of discussion.

The most novel and instructive of these lesser researches, is that in which M. Bernard establishes a test for pancreatic tissue, and juice, when in various stages of decomposition. This test consists in adding to decomposing pancreatic tissue a mixture of one part of nitric, and two of sulphuric acids, when a deep vinous color is stated to result. In an earlier stage of pancreatic decay, chlorine gas yields a similar reaction; but with the perfectly fresh gland, neither of the reagents just referred to, produces any coloration. As no other gland tissue affords any analogous reactions with these tests, the anatomist may find in them a useful ally, capable of determining the character of certain glandular tissues, whose true function in the lower animals is not always easily ascertained by an examination of their anatomical relations and integral structures.*

Another matter of very considerable interest is the formation of artificial secretions, by digesting the gland tissues in water. In this way infusions of the various salivary glands and of the pancreas, afford fluids which in every physical and chemical character resemble the ordinary product of the glands in question. Now it can be shown that the juices of these several glands become more and more watery, and deficient in solids, the longer the flow of the natural secretion is kept up. It follows from these two sets of facts that the material from which, in each case, the secretion is formed, must have accumulated in the gland, so as to make its very tissues, so to speak, a condensed secretion, only needing solution in an alkaline water flowing from the blood in order to be eliminated in a complete and active form. In this manner the gland becomes a compact storehouse of its own secretion, and the practical effect is the same as if each gland, like the liver, were provided with a receptacle, such as the gall-bladder, for the retention of its secretion until digestion demands its presence in the intestinal canal.

---

* We have repeated with care the experiments here alluded to, and we do not think them entitled to much consideration as tests. The reaction is very variable, sometimes uncertain, and most assuredly, far less easy than the author would lead us to believe; we suspect, indeed, that there is in this part of the book some omissions, which render it far from clear. We hope hereafter to report more fully upon the subject of these tests.

We can hardly pretend to have given more than an analysis of Mr. Bernard's book. Individual criticism upon a volume of experimental novelties, such as that before us, is of little value. M. Bernard's opinions are certainly at variance in many points with those of a number of eminent physiologists. He has just had the last word, and his experiments are now open to the keen criticism of repetition under the eyes of jealous rivals. On this account, therefore, we have generally left to the future and to others the task of sceptical objections. Unfortunately, our limits oblige us to dismiss without lengthened comment the chapter upon the comparative physiology of the pancreas, as well as the thoughtful and suggestive lecture upon comparative nutrition, animal and vegetable, with which the volume closes.

The literary habits of M. Dumas seem to have found partial imitators in the schools of science. A man nowadays need not write his own book. The present volume, for example, is a joint manufacture on the part of M. Bernard and two of his pupils—the professor being, of course, the thinking partner. We would be a little better pleased to have a great man's thoughts in the garments of his own proper words; we think that if our quasi author had penned the whole work fairly, we should have had more exact statements in some places, and in others, fewer of those sins of omission, which we really have not the ingratitude to point out more distinctly.

We have heard several professional friends allude disapprovingly to the unsparing resort to vivisection of which our author is said to be guilty. In this connection, M. Bernard's book suggests one or two points of interest. He remarks, on several occasions when engaged in vivisection, as to how little the animal seemed to suffer. This seeming, may be accounted for in several ways; but let us hope that the possession of a lower grade of nerve organization releases the animal from that intensity of suffering which corresponding operations would inflict upon us. There certainly appears to be no physiological warrant for believing that "the sharded beetle takes in corporeal sufferance such a pang as when a giant dies."

We are glad to observe, also, that M. Bernard occasionally makes use of chloroform when about to dissect the living animal. It might have been used more often, since in most cases its employment is, in every point of view, an advantage. Certainly, it is not unpleasant to think that science, which invented these tortures, has at last come to their relief; so that now we may feel the more freedom in sacrificing painlessly, and for useful ends, the life of the beast, over whom nature has given us a dictatorship so imperial.

Occasionally, some physiologist finds fault with vivisection as a means of research, not for moral reasons, but because it is so open to fallacies. Unluckily, this objection is applicable to every method of research, so that the better the means, as a whole, the greater becomes the chance of fallacious observation or interpretation. In the telescope, a higher magnifying power and better lenses at once increase the possible sources of error; yet, on this plea, no one would feel inclined to lay aside an improved means, whose full use was to be bought at the cost of a little more care and labor. The real want is in the observer, and not in the means of observation. The genius of experimentally guided induction is the rarest gift of nature, and with vivisection the difficulties multiply beyond the control of most men, since here we reason upon facts which we have actually assisted to create. The results of vivisection, as of other means of research, may be turned but too easily into the ready channels of our own preconceptions, so that docility in following the hints offered us through experiment is here, as elsewhere, the real want. Yet the eyes of truth, like those of a fair portrait, follow us always, could we but learn to look her steadfastly in the face.

But the subject has tempted us far enough. We cannot better take leave of it than with the indorsement of the Father of English physiology. When, says William Harvey, I first gave my mind to vivisection as a means of discovering the uses and motions of the heart, I found the task so truly arduous, so full of difficulties, that I was almost tempted to think, with Fracastarius, that the motion of the heart was only to be comprehended by God. At length, and by using greater and daily diligence, having frequent recourse to vivisections, employing a variety of animals for the purpose, and collating numerous observations, I thought that I had attained to the truth.

From his time to ours, nature has paid out her secrets miserly, in the hard coin of anguish.*

---

* The life of J. Reid, of Edinburgh, contains an excellent summary of the arguments for and against the practice of vivisection. This sagacious physiologist, well known for his researches upon the nerves of the tongue and throat, died of a cancer of the very parts whose functions he had illustrated by years of patient labor. Rendered morbid by disease and weakness, he spoke of his malady as a visitation sent to punish him for the free use which he had made of vivisection, as a means of research. Certainly there is no more painful story than his in all the annals of medical biography.

ART. IV.—*Guy's Hospital Reports.* Edited by SAMUEL WILKS, M.D., LONDIN., and ALFRED POLAND. Third series. Vol. II. London. JOHN CHURCHILL. 1856. 8vo. pp. 416.

IN this familiar and always welcome annual visitant, may be found the usual amount of interesting and practically valuable matter. It belongs to a useful class of foreign additions to our store of knowledge, which cannot be too highly appreciated by all kinds of professional readers. It is obviously more desirable to the genuine American teacher or student, as well as the practitioner, than the best of the annotated text-books of similar origin; and were it likely to be received with the smallest share of the avidity which greets the ordinary reprints, we should be glad to encourage the republication of a work, the influence of which could only be a happy one upon our native literature.

We regard the Guy's Hospital Reports, not only as records and evidences of honorable scientific progress in one of the great centres of medical learning, but as important yearly monitors to those who occupy the posts of responsibility elsewhere—above all, in our own land.

They set us an example, which speaks in tones of unmistakable force to the physicians and surgeons of our metropolitan hospitals; but which we grieve to say these officers have lamentably disregarded.

Neither materials nor qualifications can be wanting in America for the discharge of the duty of clinical reporting in some permanent form; nor do we believe that the support of the profession of the country would be withheld from any properly conducted enterprise, having for its object the systematic cultivation of the boundless fields of observation and experience, which, for any material sign to the contrary, are now lying utterly at waste in most of the large and otherwise admirable clinical charities of our seaboard and inland cities.

A tithe of the industry and intelligence which have been expended, in Philadelphia alone, in the business of introducing other men's ideas and gatherings to the American reader, if devoted to original works, might not merely have added greatly to the already distinguished number and character of indigenous treatises and elementary books, but might long ago have secured to her teachers a pre-eminence in clinical investigation and practical acquirement, which would more than equal the admitted reputation of her rival medical academies. Enough of such legitimate labor has been performed here and in other places, however, to encourage us to look for a development in our native hospital pathology and therapeutics, which shall redeem us from the stigma, only too well deserved, of being without a national school of medical science. Our faith in the vitality of

American medicine is strong, but it sadly needs the aid and comfort of actual fruition.

It was not our intention at this time to dwell upon the theme which has pressed itself almost unavoidably upon us; and we return, therefore, to our proper subject, in a brief analytical commentary upon the work before us.

The first paper of the series gives an account, with an illustration, of a myeloid tumor of the scapula, removed by Mr. Cock from a "remarkably small, delicately made woman," æt. 27, and suckling her third child, an infant six weeks old.

It is chiefly interesting from the careful description given by its author, Dr. Wilks, of the tumor, as a characteristic specimen of a morbid product which has "only of late been fully recognized and described; all growths from bone having been indiscriminately classed under the general name of osteosarcoma."

"The tumor when removed, was found to weigh nearly a pound, and to measure in its long circumference, twelve inches, and in its short, ten inches. It was of an oval shape, having, however, that side concave which constituted its base, and which covered the shoulder. This inferior surface, and the sides immediately springing from it, were bony, so that the greater part of the tumor was enclosed in an osseous shell. The acromion end of the clavicle which had been removed, still articulated with an eminence of bone corresponding to the acromion itself, and the latter was gradually lost in the osseous laminæ which formed the wall of the tumor. It was thus clearly seen, that the growth was derived from an expansion of the spine of the scapula itself, and which, indeed, formed its sides; the most superficial part only of the tumor being soft, and its walls consisting of fibrous membrane.

"Upon making a section of the tumor, a brain-like mass was exposed, enclosed in a thin-walled cyst, the walls being about one-eighth of an inch thick, and bony, with the exception of the most superficial part, which was membranous. Upon closer examination, the internal substance was seen to be composed of an opaque white, curdy structure, and a pink, gelatinous-looking material. The former largely predominated. This was in consistence and color something like cream-cheese, or blancmange, and therefore firmer, drier, and more friable than medullary cancer, and was not capable of emitting any juice, or being formed into a paste by squeezing, as in the latter.

"It was, however, not unlike the appearance presented sometimes by *dead* cancer. The other and characteristic element of the tumor existed only in a minor proportion, and was scattered throughout that just mentioned, in the form of small masses, each about the size of a pea. These were of gelatinous consistence, of a slight translucent appearance, and of a dull pinkish color, this color being altogether peculiar, and one not very often met with either in healthy or morbid structures. The hue was in no way due to blood, for no corpuscles or other elements of this fluid were discoverable. After being in spirit a short time, the color for the most part, disappeared. The whole of the contents of the tumor were very friable, and portions fell out upon everting it.

"*Microscopic examination.*—The white matter was composed principally of fatty granule masses, amongst which were seen the many nucleated cells which composed the entire mass of the translucent portions; from which we conclude that this fat was a superaddition to, or the result of a degeneration of, the other previously existing elements. If this be true, the original structure consisted wholly of the pink semi-transparent parts which were now found to occupy only a minor portion of the tumor; and, therefore, if the latter had been seen at an earlier period, its whole appearance and composition would have had this character. At the time of removal, however, this was being fast destroyed by a fatty degeneration. The elements of which we speak, composing this part, consisted of the mother-cells, described by Lebert as characteristic of one of his forms of fibro-plastic growths, which peculiarity has led Paget, with good reason, to separate those tumors which possess them into another class, which he calls 'myeloid,' a designation founded upon the resemblance of the cells to those existing in the *marrow* of the fœtal bones.

"The cells in this tumor corresponded in most respects with those described by the above-named authors, excepting that the cells were much larger, and contained many more nuclei, some cells holding at least a hundred. Many of the cells, too, were sprouting, sending out processes in all directions, from their sides, which joined and interlocked with each other. It will be seen by the drawing that these cells were of all shapes and sizes, some being small, and others containing only one or two nuclei." (pp. 2–4.)

In answer to the question as to whether this growth is malignant or likely to reappear, the following remarks are important:

"All experience gained at present with respect to these growths, would favor the answer that they do not return,—at least, this is true of the tumor in its pure myeloid form,—the present instance affording a very good example of their history in general, the main points of which are, that they occur in young persons, are isolated, grow from bone, and do not return on removal. The whole question of malignancy, however, is still in abeyance, and appears at present to be only a comparative term, since we continually see simple fibre tissue reproduced after removal, and then acquire the epithet malignant; in the same way osseous growths, from the tendency to develope themselves in a variety of parts, have caused us to recognize a class of diseases known as osteoid cancer, and more lately we have witnessed simple cartilage developing itself in the lymphatic gland, lungs, &c., to the utter destruction of the patient, in the same way as ordinary cancer would have done. The simplest structures, therefore, are not free from the taint of malignancy, using the term in its most general signification. Looking, however, upon myeloid tumors with reference to the question in its older and more restricted sense, we should certainly say that their elements are as benignant as nucleated fibre, bone, cartilage, &c., to which, indeed, they are closely allied. In all probability, however, the harmless and the more destructive elements may be combined; for, as bone may be developed together with cancer, as is seen in osteoid growths, and as cartilage may be developed with cancer, as has been seen in the testis, so, no doubt, myeloid matter may coexist with cancerous elements." (pp. 4, 5.)

Next in order comes a valuable article, embracing the third septennial report of Guy's Hospital Lying-in Charity, from October 1, 1847, to October 1, 1854; and the report of the Lying-in Charity for twenty-one years, from October 1, 1833, to October 1, 1854.

We have in these reports a collation from the records of a very large obstetric clinic, in which the patients are attended at their own houses. The number of cases recorded in the first report is 11,224; in the second it is 22,498. The statistical information is correspondingly abundant, and is presented in every variety of form; while many of the more striking cases and points of practice are given at considerable length, and must prove extremely interesting to the obstetric reader.

The third paper, by Dr. H. M. Hughes, is devoted to, 1, cases of black urine in patients who had been taking creasote; 2, a case of fatal intussusceptio associated with lumbrici; and 3, a case of emphysema of the abdominal parietes from perforation of the rectum.

Black urine, as a sequel of the administration of creasote, according to Dr. Hughes, appears to have attracted the attention of Dr. Elliotson, and was pointed out by him in his paper (Medico-Chirurg. Trans., vol. xix, p. 237) on the medicinal properties of creasote. Dr. Hughes refers, also, to Pereira (Mat. Med.), who quotes some cases by Dr. McCleod, from the Med. Gaz. (vol. ii, p. 599), in which black urine followed the use of creasote, at that time a new remedy. Setting aside three of the cases, as not sufficiently decided, Dr. Hughes signalizes seven undoubted instances "in which the urine was of brownish or purplish-black color."

"In three of these cases creasote had been administered internally; of which in two it had been given in doses of from five to twelve, and even fifteen drops, three times daily; but in the other in a dose of only one drop four times a day; and when it is recollected, how very often this remedy has been administered in the hospital in doses equally large or larger, this effect must be considered as remarkable. In two cases tar had been applied externally for psoriasis, and creasote was obtained from the urine by evaporation; while in the case of the infant related by Dr. Marcet, it is highly improbable that it or any similar substance had been taken; and in the case of the little girl mentioned by myself, it assuredly had not been prescribed. In six of the seven cases the urine was passed black and clear, and remained unaffected, or but slightly affected, by chemical reagents, including heat and nitric acid; whereas, in the seventh case, it was passed of a natural appearance, and only threw down a dense black precipitate upon the addition of nitric acid and the application of heat. Dr. Odling, who examined this urine, states, 'that the black precipitate, on subsequent exposure, became an indigo-blue deposit.'" (p. 58.)

In a postscript to the paper, we are informed of another patient under the reporter's care, in whom the urine became black when boiled with nitric acid. In this, and the other cases where iodine had been taken, the change of color was attributed to the iodine, this metal being supposed to produce the peculiar effect "under certain conditions of disease."

Following these cases, we have a full report, with a lithographic illustration, of the case of intussusception. An unusual form of internal strangulation is in this place very clearly and carefully described from the appearances, on examination, after death.

The paper of Dr. Hughes then terminates with the history of a case of abdominal emphysema from perforation of the rectum, occurring accidentally in a patient affected with cancer of the stomach.

We quote the concluding paragraph, especially on account of the lesson it conveys. The unfortunate accident of which the patient was the victim, was the result of his own mismanagement on this occasion, but is none the less worthy of attention, since, as the reporter justly tells us, it has occurred under other more objectionable circumstances. We know of one instance in which it happened in the hands of a really skilful and experienced surgeon.

> "The sequence of events in this case appears to be so clear as not to admit of any doubt. The patient, in the act of passing an enema-tube, experiences great, indeed excruciating pain; fifteen hours afterwards he has emphysema of the integuments of the abdomen; a few days subsequently he has offensive purulent discharges, and a portion of sloughing membrane passed per anum; and after death a large ulcer of the mucous membrane of the rectum is discovered, together with a perforation of the muscular coat. It appeared probable that a large abscess had formed between the mucous and muscular coats; that the former had sloughed away, leaving the latter bare, while the cellular membrane behind it had been comparatively little affected. I believe that cases of perforation of the rectum from the unskilful introduction of clyster-pipes are not very rare, and that most museums contain specimens of the accident, but I do not recollect myself to have met with an instance in which it was productive of emphysema.' (p. 68.)

The paper next in order is a very valuable statistical one, "On Hernia, with an Analysis of 126 Fatal Cases," by Thomas Bryant.

It is intended to aid in the solution of the questions, "What form of hernia is most common? What form most frequently requires operation? And which is most fatal?"

The statistics of the London Truss Society, ending with the year 1855, show that "out of 84,478 cases of inguinal and femoral hernia, 75,054 belonged to the former, and 9424 to the latter division; or, as it is more clearly stated in percentages, out of every hundred cases, 88·8 per cent.

were inguinal, and 11·1 femoral; inguinal hernia being most frequent by 77·7 per cent." Towards the solution of the second query, "281 cases have been collected; of these, 105 were inguinal, and 176 femoral; or, in every hundred cases 37·4 were of the former kind, and 62·6 of the latter. Femoral hernia, therefore, required operation 25·2 per cent. more frequently than inguinal."

In answer to the third question, two tables are presented—one of successful cases, and one of fatal.

"In 169 *cures* after operation, inguinal bore the proportion to femoral as 36·1 per cent. to 62·8, the difference being 27·7 per cent. *in favor* of femoral hernia."

"In 117 *deaths*, inguinal bore the proportion to femoral as 44·4 per cent. to 55·5, only 11·1 per cent. being the difference *against* femoral hernia. But as the difference in recoveries was 27·7 per cent., it is clear that inguinal hernia is more fatal than femoral by 16·6 per cent."

We have room only for the conclusions drawn from the various analyses, and presented in the following form:

"1. That *inguinal* hernia is more common than femoral by 77·7 per cent.

"2. That *inguinal* hernia most frequently commences between 20 and 40 years of age, and *femoral* between 50 and 70.

"3. That the average duration of inguinal hernia prior to its strangulation is 20 years, of femoral 11.

"4. That inguinal hernia most frequently becomes strangulated before 50 years of age, and femoral after this time.

"5. That the average age of persons with strangulated inguinal hernia is 43, of femoral 55.

"6. That femoral hernia requires operation 25·2 per cent. more frequently than inguinal, success in its reduction by the taxis being less frequent.

"7. That, after operation, inguinal hernia is more fatal than femoral by 16·6 per cent.

"8. That 22 per cent of cases requiring operation are recent, and are strangulated on the first descent.

"9. That three-fourths of these recent cases are *femoral.*

"10. That the average period of strangulation in fatal cases of inguinal hernia is 50½ hours, of femoral 76½.

"11. That half the fatal cases of hernia die within 48 hours after the operation, and four-fifths within the first week.

"12. That three-fourths of the cases which refuse to rally after operation, are *femoral.*

"13. That collapse and death after a copious motion is by no means a rare occurrence.

"14. That artificial anus much more frequently follows *femoral* than inguinal hernia.

"15. That the cause of death in cases of artificial anus is generally exhaustion; that death occurs more rapidly when the intestine is slit open at the time of operation, than when the opening in the bowel naturally follows its return into the abdomen.

"16. That sudden collapse and death occasionally occur in cases of hernia which have progressed favorably for many days, without any *local* cause.

"17. That in about 69 per cent. of fatal cases, peritonitis exists sufficient to produce death; that is to say, lymph in some of its forms is generally effused.

"18. That in nine-tenths of the cases of hernia, the *ileum* is the portion of bowel strangulated; and in three-fourths of these it is part of the last two feet.

"19. That as a rule, the strangulated bowel, when returned, rests or is fixed by adhesions at the mouth of the sac.

"20. That in *all* cases of gangrenous bowel, the affected portion will be found at, if not adherent to, the mouth of the sac.

"21. That femoral hernia is much more frequently associated with gangrenous bowel than inguinal.

"22. That ulceration at the line of stricture is more frequent in inguinal hernia; although the sulcated condition of the bowel is as common in femoral as in inguinal.

"23. That fecal extravasation, if not produced by ruptured bowel from the taxis, generally follows ulceration at the line of stricture, and is consequently generally found in inguinal hernia.

"24. That ruptured bowel from the taxis is most frequent in femoral hernia.

"25. That fecal extravasation does not necessarily follow rupture of intestine by the taxis.

"26. That fecal extravasation does not occur so often as 50 per cent. in cases of rupture or perforation of the bowel.

The paper then closes with some very valuable practical deductions, for which we must refer the reader to the report itself, as one that will well repay him for its careful study.

Article Fifth is an interesting, and instructive paper, by Henry Oldham, M.D., on "Concealed Accidental Uterine Hemorrhage," in which three cases are given in full, with practical conclusions. One of the cases is illustrated by a lithographic print of the placenta, with its uterine surface hollowed out by the pressure of the coagulated blood.

In the Sixth Article, we have an elaborate and instructive view, by Dr. Wilks, of 45 cases of "Lardaceous Disease, and some Allied Affections," with remarks in which the distinguishing characteristics of this form of degeneration generally, and in different organs, are described at length and with great precision.

The closing paragraphs of this paper, are devoted to a description of a peculiar enlargement of the lymphatic glands existing in association with lardaceous spleen, which was noticed formerly by Dr. Hodgkin, and referred to by Dr. Bright, but which had recently attracted the attention of Dr. Wilks.

Succeeding the article just noticed is another (VII), by the same reporter, in which the results are given of the post-mortem examination of twelve fatal cases of burns.

The object of these examinations was to test the frequency of the occurrence of ulceration of the duodenum in such cases, as stated by Mr. Curling in his paper (Medico-Chirurg. Trans. vol. 25), on the subject. According to Dr. Wilks, the few opportunities afforded him of making examinations, had not corroborated Mr. Curling's experience; but he determined to subject the matter to a more careful trial, and, for the purpose, noted twelve cases in which death had supervened at various intervals of from nine days to seven weeks.

"It will be seen that in no case," says the reporter, "was there any disease discoverable in the duodenum after death, and that as regards the remaining part of the alimentary canal, in one case only was a slight diphtheritic condition of the colon found, and in another an erosion of the stomach." The latter form of ulcer is far from uncommon, being frequently met with in those dying from heart disease and other causes. In none of these cases, moreover, were there any symptoms denoting severe lesion of the intestinal canal during life; and the same fact is true of all the other fatal cases (25) which were not examined, as well as all those which recovered during the above named period (eighteen months).

Another article (VIII), by Dr. Wilks, completes the contribution of the able editor to this volume. It is entitled a "Brief Report of the Post-Mortem Examination of the Cases of Fever which have died in the Hospital during the last two years," and is in continuation of the account given in the last volume of the Reports, of all the cases of fever up to the autumn of 1854.

From this paper we shall make only one short extract:

"With reference to the question of specific differences between typhus and typhoid which was entered upon in the last volume, we may state that the greater number of cases being of the typhus kind, with the presence of a mulberry rash, the distinction has been well marked and the diagnosis easy; but in some of the milder forms the symptoms were considered to be not sufficiently distinctive to warrant their separation into species. Whatever difficulties, however, may have existed in the attempt to dissever the resemblances which may have been present during life, no such difficulties were found after death; for then a clear distinction was apparent between the two forms. In one class of cases no disease whatever was found in the intestine, and in the other a very remarkable condition and one altogether characteristic. There has been no intermediate state or point of transition between them, but a healthy condition on the one hand and a marked disease on the other. In most of the cases the symptoms of each class were distinct, and led to the knowledge of the appearances found after death, thus tending, as we believe, to make a clear separation between them. Leaving, however, for the present, the symptoms which existed during life, and regarding merely the appearances found after death, we cannot but conclude that we are looking upon diseases of altogether different kind." (pp. 137, 138.)

The next two articles (IX and X), are by Dr. William Gull, the first being a very well-prepared report of sixteen cases of paraplegia from tumors compressing the spinal cord, and the second a short memoir on the parasitical vegetable nature of ptyriasis versicolor.

The difficulty of diagnosis in paraplegia, the vagueness of the early symptoms, and the rarity of tumors of the cord, or its membranes, as a cause of paraplegia, render these admirably recorded and considered observations especially important and interesting. Their study in relation to the views of Brown-Sequard, and others, as to the functions of the different portions of the cord, would be interesting, but we have room only to notice some of the general considerations with which the special histories of the cases are prefaced.

Except the scrofulous deposits, tumors of the cord are most frequently seated in the loose tissue under the visceral layer of the arachnoid, or grow from the inner surface of the dura mater. They are not malignant as generally supposed, but *fibro-nuclear*, or *fibro-cellular* cancerous affections of the cord and its membranes, being extremely rare as a primary disease.

Pain appears to be most frequently "a prominent and characteristic symptom," and very variable in its character. Usually it is referred to the back, and more or less correctly indicates the seat of the disease, from which it radiates in the direction of the nerves whose roots are invaded; and even when there is no actual pain, there may be other disorders of *sensation* of various kinds. Next to pain, as an attendant on these affections, is the frequency of muscular contractions in the affected limbs, followed, as the case progresses, by flexion and rigidity, and attended by a great susceptibility to the excito-motor stimulus. "These phenomena are most apparent when the cord is merely stretched or compressed, and where no other change has occurred in it beyond atrophy, the communication with the brain being at the same time not entirely destroyed. If there be inflammatory softening of the substance of the cord, the then characteristic symptoms may be absent, as they are also in compression of the cord from fracture, when its structure is bruised and softened. Spasmodic contractions of the muscles of the extremities occur, whether the fibres of the cord are compressed by tumors on its surface, or stretched by tubercle deposited within it. At one stage of a case there may be rigid extension, which may be gradually followed as the case progresses by as rigid flexion, though the muscles at the same time may become atrophied and flaccid."

The practical importance of attending to the vagueness of the early symptoms in paraplegia is well illustrated by the reporter. "In the first case here recorded, the early symptoms, cough and slight dyspnœa, and some pain in the back and shoulders, were referred to tubercular disease of the lungs. In the second, the spasmodic action of the limbs was so great that for a time the case was regarded as one of hysteria. In fine, the symptoms of neuralgia, hysteria, lumbago, rheumatism, phthisis, colic, renal calculus, pleuritic and hepatic affections, may rise like so many phantoms, to delude us at the outset of most paraplegic affections, and the errors they are apt to lead to can be avoided only by a rigid inquiry."

Article XI, is a suggestive one by Dr. Habershon, entitled "Observations on the Abdominal Sympathetic Nerve." The chief point in this paper is the account given of the arrangement and relations of the semilunar ganglion and the diaphragmatic ganglion, with the union in the latter of the phrenic, pneumogastric and splanchnic nerves. This union, which is well displayed in an accompanying print, he justly dwells upon as particularly interesting.

> "The use of the diaphragmatic ganglion appears to bring the diaphragm into intimate relation in its action with the abdominal viscera, and to unite the digestive and respiratory and cardiac centres of the sympathetic nerve. The pneumogastric and phrenic are the most important nerves of respiration; and here they are brought into close connection with the splanchnic, the great nerve of digestion, and send branches to the liver, the largest of the abdominal glands." (pp. 201, 202.)

This idea is sustained with an excellent practical review of the pathological phenomena, produced by the sympathetic action of their different centres, under the disturbing influence of disease in any one of them. We should be glad to lay it before our readers as a most useful lesson.

We must hasten on, however, to the remaining papers, and shall be obliged, under the restriction of rapidly decreasing space, to pass more briefly over much that is worthy of attention in the latter half of the volume.

Dr. Habershon is the author also of the article (XII) next in order. It is "On Dysphagia, Illustrated by some cases of Diseases of the Œsophagus and Pharynx." No one who has encountered in his practice any of these distressing forms of disease, can fail to appreciate the value of the experience which is so well and faithfully presented in this paper.

The causes of dysphagia illustrated as chiefly operative in the cases selected by Dr. Habershon, are given as follows:

> "I. From disease of the tonsils or palate.
> "II. From inflammation of the cellular tissue of the pharynx or œsophagus.
> "III. From disease of the laryngeal cartilages, or epiglottis.

"IV. From functional or spasmodic stricture of the œsophagus or pharynx, as in hysteria, hydrophobia, &c.

"V. From paralysis of the muscles.

"VI. From acute inflammation of the mucous membrane.

"VII. From mechanical injury or poisons.

"VIII. From structural obstruction to the œsophagus, as—

"1. Constriction;

"2. Ulcerations, sometimes communicating with the larynx;

"3. Cancerous disease;

"4. Obstruction from the pressure of aneurismal or other tumors." (pp. 206, 207.)

A useful and opportune article next follows, by Mr. France, on the use of atropine in iritis, with an appendix containing two cases of artificial pupil, successfully established by operation.

The remarks on atropine in iritis conclusively combat the mischievous fallacy, recently started by respectable authority, which opposes, as unnecessary and injurious, the resort to belladonna or its alkaloid, for the purpose of dilating the pupil during the acute stage of iritis.

We fully indorse, on the authority of considerable public and private experience, the summary of doctrine with which his article concludes.

"1. On plain anatomical grounds, cohesion of the iris and capsule is less to be apprehended; and, when happening, is less injurious, with an expanded than a contracted state of pupil.

"2. The means of producing the former state should, therefore, always be employed in iritis; for though, when the complaint has reached a certain stage, the reaction of the pupil may be suspended; yet, in the majority of instances, this stage has not supervened when cases first apply.

"3. Should the tentative use of belladonna not attain the desired object, its effect is for the time simply negative—is not injurious.*

"4. Perseverance with belladonna or atropine, even when no immediate effect results, has this recommendation,—that it takes advantage, at the earliest period, of the returning mobility of the iris, when inflammation abates.

"5. During the convalescing stage, the detachment of adhesions is greatly promoted by the use of these agents, and, when accomplished, is a material and unmingled gain." (p. 240.)

Of the remaining six articles yet unnoticed, two are original and instructive essays by Mr. Odling, on the "Alkaline Emanation from Sewers and Cesspools," and on the "Detection of Antimony for Medico-Legal Purposes;" two are by Dr. Pavy, and two by Dr. Taylor.

---

* "Exceptional examples, wherein augmented pain follows the application, scarcely impair the universality of this rule; as the inconvenience rarely arises, and subsides on the discontinuance of the remedy."

The first of Dr. Taylor's contributions is his well-known and masterly review of the Palmer evidence, in relation to the question of poisoning by strychnia. This has already circulated widely in a separate form, and as we hope to examine it at length on another occasion, we shall say nothing more about it here.

The second article of Dr. Taylor's is occupied with an Analysis of the Water of the Great Geyser, Iceland; from which it appears that the only alkaline base contained in this water was soda. "This was associated with carbonic acid, chlorine, sulphuric and silicic acids; and the mineral constituents of the water, besides a minute trace of oxide of iron, were chloride of sodium, carbonate of soda, sulphate of soda, and silica, the last being the preponderating mineral ingredient."

Dr. Pavy's first paper (Art. XVII) is a very interesting experimental essay "On the Gastric Juice as a Solvent of the Tissues of Living Animals;" in which, by subjecting, through a fistulous orifice in the stomach of a dog, the ear of a live rabbit to the action of the gastric juice, he demonstrates the solvent action of this juice upon the living tissues of warm-blooded animals, as well as upon those of the frog and other lower grades of animal life.

Dr. Pavy's second contribution is entitled "Remarks on the Physiological Effects of Strychnia and the Woorali Poison." The subject is an interesting one, especially in view of the greater prevalence of strychnia poisoning, and of the recently all-absorbing inquiry on the Rugeley cases, and the subsequent trial, so ably discussed by Dr. Taylor.

In our analysis of Dr. Pavy's essay, we have availed ourselves of the critical assistance of a distinguished physiological friend and experienced vivisector, and shall append his notes.

The principal object of the paper is to show that these two poisons have an entirely different action, one of them exciting and leading to muscular action, the other depressing and leading to muscular paralysis; but that neither has any direct influence upon the heart.

The apparently exciting action of strychnia upon the spinal cord is well known, but it is questioned whether it acts directly upon the heart or not. In the frog, says Dr. Pavy, if you open the thorax, after poisoning with strychnia, when the animal appears perfectly dead, you find the heart still beating with its ordinary regularity, as will even be the case for several hours afterwards.* If strychnia is put directly on the heart, the frog dies from tetanus, but the heart continues to beat for more than two hours. Dr.

---

* Dr. Pavy seems not to be aware that the same observation had already been made by M. Ad. Moreau, in a paper on the action of poisons on the heart, read in November, 1855, at the Paris Sociète de Biologie. (*See Comptes Rendus et Mém. de la Soc. de Biol.*, 2d series, vol. ii, p. 171.)

Harley has obtained different results, because he employed strychnia dissolved in a menstruum (as acetic or hydrochloric acid), which soon causes the pulsations of the heart to cease, giving it a shrunken or contracted appearance.

Dr. Harley thinks that strychnia does not destroy life in producing asphyxia from spasm of the respiratory muscles, because he did not succeed in maintaining life by means of the artificial respiration he employed. Dr. Pavy says that, in his own experiments he has found it impossible to succeed in performing artificial respiration, unless the influence of the strychnized muscles be removed, by opening the chest. He relates two experiments, one upon a dog, the other upon a rabbit, which show that if the respiration be thus sustained, after poisoning with strychnia, the action of the heart will continue. In the dog, when the chest was opened, after apparent death, the heart was beating most feebly and irregularly; but on performing artificial respiration, its action became rapid and strong, and was thus kept up for twenty minutes. When the respiration was interrupted, the heart soon ceased to beat. The experiment upon the rabbit gave similar results.*

Dr. Pavy has performed some other experiments, which show that the heart, in animals killed by strychnia, has its cavities in the same condition as in cases of asphyxia, *i. e.*, the right side full, and the left empty. All his experiments lead him to think that strychnia kills, in producing asphyxia, by the spasm of the respiratory muscles.

The woorali poison acts in producing paralysis. Dr. Pavy describes an experiment to show that it destroys nervous power, and not the vital property of muscles, and from that draws the conclusion, that muscular irritability is independent of nervous action. Besides, Dr. Pavy shows that the heart's action is not directly affected by this poison.†—(*Guy's Hosp. Reports*, vol. ii, p. 408–16, 1856.)

---

* Dr. Pavy says that the galvanization of the pneumogastric nerve produces a spasm of the heart, just as the galvanization of any muscular nerve causes contraction in the muscle to which it is distributed. We doubt this fact. The heart's action is truly stopped when the vagus nerve is galvanized, but there is no spasm then produced; the heart, on the contrary, dilates by the afflux of blood in its cavities, as the brothers Weber have found. Perhaps Dr. Pavy had applied one of the conductors on the heart, while the other was on the pneumogastric. In such a case, as it has been pointed out by Dr. Brown-Sequard (Gazette Med. de Paris, 1850, p. 332), the heart contracts spasmodically during the galvanization.

† Dr. Pavy seems to be ignorant that the results of his experiments had been already obtained by other experimenters, among whom we will name Sir B. Brodie, Prof. Cl. Bernard, and Koelliker, who have even gone further than Dr. Pavy. Sir B. Brodie has found that if insufflation is continued long enough after poisoning

ART. V.—*Statistical Report on the Sickness and Mortality in the Army of the United States. Compiled from the Records of the Surgeon-General's Office; embracing a period of sixteen years, from* 1839 *to* 1855. Prepared under the direction of Brevet Brigadier General THOMAS LAWSON; Surgeon-General U. S. Army. By RICHARD H. COOLIDGE, M.D., Assistant Surgeon U. S. Army.

LORD BACON observed that the great want of medical science was a closer "inquisition" into the causes of organic decay, and of the brevity or length of life; an inquiry needing to be made complete in all its parts, and confirmed by numerical calculations. If he estimated at its lowest point the acquirements of the profession, in his time, he has been more than followed, in this, by a bold usurper of many of his laurels,—M. Comte; who, after an allusion to "the profound imperfection of the existing education" of medical men, dismisses their scientific pretensions, thus: "If we would not confide the study of astronomy to navigators, we must not leave biology to the leisure of physicians."

Yet, if the study of the winds and the waves cannot be pursued without the aid of those who navigate the deep,—so pathology, at least, if not physiology, must depend essentially upon practical physicians for those facts which constitute its structure, and upon which its principles are to be founded.

It is to be regretted, that a much more systematic habit of accumulation of such facts does not generally prevail; since, bare and inert as each series may appear by itself, it needs but aggregation, with the electric spark of thought, to constitute of them an organization, endowed with all the vitality of science.

The industry of the army medical staff, during sixteen years, has brought together much of great importance, as to the medical topography and sanitary condition of the United States. A quarto volume, of seven hundred pages, having a considerable proportion of tabular matter, forms its representative embodiment.

We do not suppose that very many will read through this large volume; yet, having done so, we may pronounce, that it is not only worthy of perusal,

---

with the woorali (or *woorara*), life may be restored, the poison being expelled with some of the secretions. Prof. Cl. Bernard has found that the woorali destroys neither the reflex power nor the properties of sensitive nerves, but only the power of motor nerves, although it leaves muscular irritability entire. As to the deduction that the vital property of muscles is proved to be independent of nervous action, by the fact that the woorali destroys the motor nervous power without altering muscular irritability, Prof. Bernard had drawn it long before Dr. Pavy, and from the same experiment.

but of careful study. It contains material for a climatology of the United States; gives the actual history, from observation, of all the principal diseases, sporadic, endemic, and epidemic, of the country; shows the local circumstances, and meteorological conditions, which have coincided with epochs of disease; and adds to all this, much information in regard to the natural history of the continent, including the ethnology of its human tribes. It would afford data for a hundred theories; but, better than this, it will add to that pile of slowly aggregating knowledge, which, like the coral islands, unseen for centuries, will at last reach the air, and become almost at once a world of life and fertility. The value and interest of this volume is, no doubt, much increased by the care and labor with which its editor, Dr. Coolidge, has compiled it; and by the fact that it has been delayed, until an amply sufficient amount of material has been collected.

The plan of the work is as follows: The territory of the United States is separated into three great divisions, the Northern, Middle, and Southern; beside which are enumerated, distinctly, Florida, Texas, New Mexico, California, and Oregon and Washington Territories. Most of these are again subdivided; as, the Northern Division, into the *North Atlantic* Region, including the coast of New England, and New York harbor; and the *North Interior*, including the posts east of, upon, and westward of the Great Lakes. The Middle Division is subdivided into the *Middle Atlantic*, and the *Middle Interior*, East and West; the Southern, into the *South Atlantic*, and *South Interior*. Other similar distributions are made of the regions in Florida, Texas, &c.

The Surgeon-General having issued, in 1852, a circular of inquiry to all the medical officers on duty, a reply was sent by each, upon the topography, climate, diseases, &c., of his locality. These reports are, many of them, elaborate, and very interesting. After those of each region, Assistant Surgeon Coolidge has inserted an abstract, prepared from the original reports, of the number of cases of sickness and death occurring in each section. At the end of the reports from each division, full abstracts of disease and mortality are inserted, in complete tables. Consolidated abstracts terminate this series; after which, there is an appendix, containing matter of great importance and interest.

A few pages will hardly suffice to convey an idea, by extracts or summaries, of the information contained in these reports. We propose, in this review, to give only such desultory notice as our limits allow, of those statements which seem, to have the greatest *practical* value.

In the report of Assistant Surgeon Eaton (p. 16), an account is rendered of the medical topography of Fort Hamilton, in New York harbor. Every one is familiar with the fact that yellow fever occurred at that post and in its vicinity, last summer, and was ascribed to the contiguity of the shipping.

It is of importance, then, to find, as we do in this report, that Fort Hamilton is situated in an *insalubrious* locality; where those noxious vapors, proceeding from organic decomposition, exist, which some have supposed not to have had any influence in this instance.

Passing abruptly to another topic,—at Fort Kent, in Maine, on the St. John's River, an opportunity occurred of comparing the date of puberty, in descendants of different races, in the same climate. The mean temperature for the year at Fort Kent, is about 36°; it being in latitude 47° 15″ N.

Among the French inhabitants, of Acadian descent, "the average date of the first appearance of the menses, in 38 cases, was 13·5 years; in one case commencing at 11, in the most protracted at 19 years. To compare with these," says Assistant Surgeon Witherspoon, "I have procured the age at which the only eight Americans girls who have been raised on the river, first menstruated. The average date was 15·12 years, the youngest at 14, the eldest at 16. As the Americans have a decided superiority in manner of living, use better and more stimulating food, wear warmer and more comfortable clothing, all of which causes would tend to accelerate the period of puberty, it would seem that race as well as climate, has great influence in the matter."

We are struck with the comparative absence of serious disease of the respiratory organs, and especially of phthisis, at the posts in the North Interior region. This is noticed at Fort Kent, the most northerly of all in the United States; also at Forts Fairfield, Maine; Winnebago, Wisconsin; Dodge and Atkinson, Iowa; and Laramie, Nebraska. In New Mexico, the same thing has been observed; the difference in latitude being there compensated for by the elevation; which is, at all the posts, from 4000 to 8000 feet above the level of the ocean. These facts are alluded to by Assistant Surgeon Coolidge at the close of the volume, as the basis of some deductions which we will notice in their place.

At Madison Barracks, on Sackett's Harbor, eight miles from Lake Ontario, Assistant Surgeon Henderson has recorded the coincidence of a decided increase in the amount of malarious fever, with the *falling of the lakes;* a coincidence which, notwithstanding the opinion of the reporter, we cannot but think significant of partial causation.

Assistant Surgeon C. E. Isaacs gives an interesting account of a singular epidemic of *peritonitis*, which occurred at Copper Harbor, on Lake Superior, in the winter of 1844. It was fatal in but one case. At La Pointe, 180 miles farther west, a similar epidemic destroyed thirty of the inhabitants, in the winter of 1840.

Much information in regard to the habits and sanitary condition of the

Indian tribes, is afforded in the reports of Dr. David Day, Assistant Surgeons Keeney, Head, Hasson, Barnes, Moses, and others.

Whatever may have been the state of these tribes, before the white man overran the country, it would appear that civilization, with the evils which attend it as its shadow, is incompatible with their continued existence. Their mortality is greater than that of any other race or class on this continent, not excepting (as statistics show) the negroes, in any locality. Syphilis, small-pox, cholera, measles, and even remittent and intermittent fevers, aggravated by intemperance, superstition, and ignorance, are destroying them by thousands every year. Of the Osages alone, in 1845, there were six thousand; in 1850, five thousand; in 1852, but thirty-five hundred were left.

In the most extended paper in the volume, Surgeon John B. Porter gives the history of the climatology and diseases of Fort Moultrie, and Sullivan's Island; the interest of which is chiefly to be seen in connection with yellow fever. By an elaborate investigation of every epidemic, and nearly every case, which has occurred in those localities, he has established the *indigenous* origination of this fever, and the absence of any evidence of contagion. It is but fair to state, that Assistant Surgeons Hammond and McParlin, hold different views, based upon the observation of epidemics at Barrancas Barracks, and Pascagoula. The treatment of yellow fever, which Surgeon Porter prefers, consists chiefly in the administration of quinine and calomel, in what, at the North, would be considered pretty free doses. This is also the favorite plan of medication in the same disease with all but one or two of the other authors of the "statistics." We need not remark that experience, since the date of most of these reports, has shaken the confidence of many of the advocates of the "abortive" treatment, and thrown a preference upon the "palliative" plan, on the idea that we possess no specific or antidotal remedy for "typhus icterodes."

Dr. Coolidge, while on duty at Fort Gibson, near the Arkansas, furnished an account of *typhoid pneumonia*, which, as this disease is by some Northern physicians believed to be a "myth," we may quote. It is corroborated by the frequent mention of the same disease, as the "winter fever" of miasmatic regions, in other reports in this work:

> "It usually attacks persons enfeebled by climate and malarial influences, who live in open houses, are poorly clothed, and, above all, intemperate. No case has occurred, to my knowledge, among the regular toops. The disease is sometimes rapidly fatal, being ushered in with a chill, during which the brain or lungs, or both, become fatally congested; the patient never rallying. In less severe cases, there is usually a chill, followed by fever, complicated with pneumonia, which is not unfrequently double."

* * * * * * * * *

> "The attendant fever appears to be continued, and not to differ from the symptomatic fever accompanying pneumonitis at the North; but if closely watched, slight remissions may be observed, even in the severest cases. There appears to be an 'essential fever,' with local inflammation. In such cases, my observation tells me that you may bleed, cup, give mercurial cathartics, and use the tartrate of antimony freely, and still the disease will gain ground. I have closely watched several cases, and notwithstanding the employment of remedies which in ordinary pneumonia would have been successful, I have found the disease steadily advancing, both in extent and degree. In this condition, with extensive inflammation of both lungs, I have given the sulphate of quinine in ten and twenty grain doses, with the happy effect of *removing almost entirely the attendant fever* in less than twenty-four hours, and checking, or at least enabling remedies before inefficacious to check, the progress of the disease."

Another season, Dr. Porter writes thus on the same topic:

> "The treatment adopted was moderate bleeding, cupping, and external irritants; a mercurial cathartic, followed by the nitrous powder of the United States Dispensatory, frequently repeated, and quinine given in sufficient doses to check the fever, which it always did.
>
> "The disease had a typhoid tendency, which prevented large bleeding, and rendered the use of serpentaria, senega, and wine necessary in the latter stages.
>
> "Sixteen cases were treated during this quarter, two of which were fatal; of these, one was apoplectic, when first seen; the insensibility was never removed, the patient dying in sixty hours. The other was complicated with meningitis, and was under treatment only thirty-six hours."

During the same winter (1846–7), a similar description of "congestive pneumonia" was given by Assistant Surgeon J. H. Bailey, as it occurred at Fort Smith, in the State of Arkansas; but his views of treatment were different. He states that

> "Large doses of quinine were of no utility; small doses seemed, in some instances, beneficial in bolstering up the patient. Emetics, especially of sulphate of zinc and copper, often gave temporary relief. Calomel was always decidedly beneficial, and opium of more use than all other remedies together."

Looking over the accounts of *cholera*, we find that the earliest occurrence of it, at any post in the United States, was December 21st, 1848, at Lavacca, Texas; but it was in New Orleans also, in the same month.

In 1849, it was at Fort Columbus, in New York harbor, but not on the coast of New England; it prevailed during the same year in all the other regions within the limits of the United States, and in Texas. California, New Mexico, Oregon, and Washington Territories, were not visited. In 1850, 1851, and 1852, it was reported in the North Interior region west of the great Lakes, in the Middle Interior West, and in the South Interior; and in 1852, a description is also given of its ravages among the troops at Panama, *en route* for California. In 1854, it was again in New York harbor, as well as West of the great Lakes, and in the South Interior region. The greatest mortality, in proportion to cases, viz., 1 in 2·8 and 1 in 2·1, was at Jefferson Barracks and St. Louis Arsenal, places of noted insalubrity, and at Leavenworth, Kansas, where it was said to have been "brought by the troops from St. Louis." The lowest mortality (1 death in 14 cases) occurred in the Middle Interior region West of the great Lakes.* The treatment in vogue at nearly all the posts in the army, was the use of calomel and opium, as the main remedies, aided by diffusible stimulants and antispasmodics, with external warmth and stimulation. Some of the medical officers gave from 100 to 300 grains of calomel in twenty-four hours, "with success." No means are afforded to *compare,* satisfactorily, the results of different modes of treatment.

We have no room for farther quotation in regard to cholera, merely remarking that only one of the reporters (Surgeon De Camp) avows a belief in the contagion of this disease. At Fort Laramie, Nebraska, and in its vicinity, opportunity was given to remark upon the existence, in June, 1850, of an epidemic *on the road* which was traversed by numbers of emigrants, on their way to California and Oregon, extending to a distance of 470 miles, and then abruptly ceasing at the crossing of the Platte River. "The cholera was confined to the road, and among the emigrants. Many Indians remained on the road through curiosity, or for the purpose of begging; they paid a terrible penalty. Other bands of Indians, wiser than the above, left the road, and escaped." (p. 80.)

An epidemic of *influenza,* of considerable violence, swept over the whole country in 1843; it was noticed at nearly all the posts. Evidence cannot be obtained, from the recent medical history of the army, in favor of the hypothesis, that a connection, or even a coincidence exists between the periods of this epidemic and those of cholera.

Much information is furnished in these reports in regard to the occurrence and treatment of *scurvy.* The remedies which seem to have been most promptly successful, were the *maguey* (agave Americana), the prickly pear (cactus opuntia), and a diet of wild onions.

We have already remarked upon the comparative exemption from tuberculous disease of so many of the northern posts. The tabular statement given by Dr. Coolidge (p. 496), makes this still more evident; as, "with the exception of West Point, the lowest ratio of cases of consumption is in New Mexico, being 1·3 per 1000; and the highest in the South Atlantic regions, where it is 9·2 per 1000." Dr. Coolidge concludes, most rationally, that *dryness* and *equability* are vastly more important to the safety of those threatened by or suffering from consumption, than temperature; and that a uniformly *low* temperature is, for them, preferable to one uniformly *high*, especially if the latter be accompanied by humidity.

---

* In the North Interior region West of the great Lakes, the mortality was but 1 in 10 cases.

We might occupy many pages, with interest to ourselves, if not to the reader, by discussing the data given in this book, in regard to the "nosogeography" of the indigenous *fevers* of our country. Intermittent and remittent fevers have disappeared (except when imported) from the New England States. They occur, however, annually, with different grades of violence, in all the other divisions of the United States, with the exception of Oregon and Washington Territories, and, perhaps, New Mexico. Most generally, the coincidence with slow streams and broad marshes, which is proverbial, exists in those places of prevalence described by the contributors to the army statistics; but exceptions occur. For instance, at Forts Scott, Atkinson, and Dodge, near the western borders of Missouri and Iowa, intermittent prevails yearly; although the air is *remarkable for dryness;* the only fact to be connected with miasmatic development being the luxuriant vegetation of the open prairie. Again, at Fort Riley, in Kansas, an example was given, in 1853, of the cutting down of immense quantities of timber early in the summer, leaving much vegetable matter to decay in the bottom, without producing any fever. At Monterey, California, where the vicinity of large lagoons, &c., might lead us to expect their occurrence, miasmatic diseases do not originate; while at Camp Far West, in a similar latitude and climate, but *twenty-five miles* from any marsh whatever, they abound. The pernicious or "congestive" type of fever is indigenous, as is well known, only in the southern zone of the United States. It was in regard to the treatment of this malignant endemic, that Surgeon-General Lawson instituted an inquiry, in 1843, which has produced some of the most interesting papers in this volume; upon the subject of the administration of *quinine in large doses.* Surgeon-General Lawson claims for the medical staff of the army the credit of having *established* this practice in Southern fevers.

A careful perusal of these papers (relating chiefly to the history of the fevers of Florida) has led us to conclude, that they give no ground for changing the practice common in the North, in regard to *ordinary* autumnal fevers; but that, in those of the so-called congestive or pernicious type, occurring *especially in persons who have been enfeebled by long exposure to miasmata, the large doses are not only safe, but indispensable.*

The *tables* of this volume, alone, might present a wide and fertile field of study. The amount of labor spent in their preparation and compilation must have been immense. Besides the special statistics of each separate region, consolidated abstracts (as we have already remarked) are given, of the whole number of cases of diseases, and the resulting mortality, for the sixteen years. Thus, for example, we notice that in the entire army, during that period, 1628 cases of cholera have occurred, with 598 deaths (1 in 2·74); of yellow fever, 723 cases, and 209 deaths (1 in 3·45); of remittent fever, 10,299 cases, and 210 deaths; of "common continued fever," 2207 cases, and 23 deaths; of typhus, 557 cases, and 118 deaths; &c. &c.

Exclusive of cholera, the annual proportion of deaths (from disease) to the numerical strength of the army, is 1 in 38·04, or 2·58 per cent.; but, as Dr. Coolidge remarks, this is really too high, as the excess of deaths in 1849 was probably in part owing to diseases contracted in Mexico during the war.

Of the different regions, the lowest mortality (4 per 1000 of mean strength) is seen to be at West Point; the next (9 per 1000) on the Coast of New England. The highest, is on the Gulf Coast of Florida, and at Jefferson Barracks and St. Louis Arsenal, Missouri; the former being 52·8, and the latter 47 deaths per 1000 of mean strength. By reference to another table, we find that the preponderance on the Gulf Coast of Florida, especially, is due to *fevers;* of which that region presents the largest proportion. The *fatality* of fevers, however, would seem, according to the reports, to be greatest in Northern California; viz., 1 death in 14 cases; while, on the Western Frontier of Texas, it is but 1 death in 961 cases; a difference so great, as to suggest the possibility of some error.

The Meteorological Tables are, also, of great interest. We can select but one or two of the most striking points. On examination, we find that the *coldest* posts in the United States are Forts Kent and Fairfield, Maine, and Fort Gaines in Minnesota; the former averaging for the year, respectively, 37·04° and 38·11°; the latter, 39·30°. The *hottest* stations are, at Key West and Fort Myers, South Florida, and Fort Yuma, California. At Key West, the average for the year is 76·43°.

The greatest average quantity of rain for the year, fell at Fort Pike, Louisiana, being 71·92 inches; the least, at the posts in New Mexico (from 6 to 12 inches), and at Fort Yuma, California, where the mean of two years gave but 3·24 inches. We are struck with the difference, in some instances, in this respect, between localities not very distant from each other; as, in Florida, the amount for the year at St. Augustine, was but 31·80 inches; at Fort Pierce, in the same State, 62·98. So, also, in Oregon, at Fort Orford, the most western post on the continent, there fell 68·52 inches in the year; at Fort Dallas, on the Columbia River, only 14·32 inches.

In a note appended at the close of the volume, by Surgeon-General Lawson, it is stated that his main objects in causing its preparation were, to encourage the medical officers in the habit of observing and recording facts in medicine and the collateral sciences, and to bring them into more direct communion with the medical profession in civil life, by adding their contributions to the general stores of knowledge. Both of these ends have, we are sure, been amply and satisfactorily attained; and the reporters and compiler have, by the presentation of this work, involved the civil members of the profession in a debt of obligation, which, with all their apparent advantages, they may long find it difficult to repay.

ART. VI.—*The Physician's Pocket Dose and Symptom Book;* Containing the Doses and Uses of all the Principal Articles of the Materia Medica and Chief Officinal Preparations, &c. &c. By JOSEPH H. WYTHES, A.M., M.D. Second Edition. Lindsay & Blakiston, 18mo., pp. 230, Philadelphia, 1857.

WE belong to that class of men who have, as a general thing, no respect for the small writings of the profession; and yet we recollect, with what pleasure we carried about with us, in our pocket, when we were a student, a copy of Fyfe's Anatomy, and with what avidity we read, as we were waiting for the tardy steps of our master, the author's account of the brain, heart, and other organs, treasuring up items in our mind as food for subsequent digestion as we again emerged into the open street. Even our Sabbath meditations were sometimes seriously interrupted by a dip of this kind. Who is there among us, who has not occasionally longed for the *vade-mecum*—the little go-with-me—that he might refresh his memory upon some practical subject, as he was riding through the crowded thoroughfares of a large city, or proceeding on horseback over the tedious and muddy roads of the country, with no flowers to greet his sight, or birds to charm his ear with their sweet warblings? It is at such times that the medical student—we do not mean the under-graduate, but the young and aspiring practitioner—finds genuine comfort and consolation in this class of productions, and feels inclined to hug them with a sort of parental tenderness to his bosom. He is suddenly summoned to a case of poisoning with arsenic or opium, to one of flooding, or to one of compound fracture. He has no time to refer to the more elaborate works in his library; the case is too urgent to admit of delay; and yet he feels that he ought to refresh his memory respecting the diagnosis and treatment of the disease to which he is so peremptorily called. Here is a dilemma. He cannot put the ponderous octavo into his pocket, or hold it in his hand as he drives or rides along at a furious rate to see his patient. No! But he snatches up his faithful, never-failing *vade-mecum*, his *multiparval* friend, and, in a moment, his eye rests upon the very spot that he wishes to find. He takes a little draught; his thirst is allayed; and he proceeds on his way, thankful that he has not despised the day of little things.

Why, reader, the very word, *vade-mecum*, has something cosy and pleasant about it; go with me, be my companion, my friend; a friend in need, a friend indeed! Such books, if properly executed, are like keys to the locks of the great storehouse of knowledge—*cul-de-sacs*, filled with the essence and fragrance of the great books of the profession.

Dr. Wythes, who is favorably known as the author of several small works of merit, has performed his task well. He possesses the faculty of condensation in a remarkable degree, and his little work does not contain one ambiguous expression. The book is, as it professes to be, nothing but a pocket remembrancer; but, as such, we regard it as one of great value, a circumstance fully attested by the early demand for a second edition. It comprises a table of weights and measures, rules for proportioning doses, a list of common abbreviations, a table of poisons and antidotes, a classification of the materia medica, an alphabetical list of the principal medicinal articles and preparations, a table of symptoms of disease, and a brief outline of general pathology and therapeutics. Of all the little works of the kind now extant, we know of none that is equal to it.

ART. VII.—*Catalogue of the Human Crania in the Collection of the Academy of Natural Sciences of Philadelphia.* Based upon the Third Edition of Dr. Morton's "Catalogue of Skulls." By J. AITKEN MEIGS, M.D., Librarian of the Academy, &c. Pamphlet, pp. 112. J. B. Lippincott & Co., Philadelphia, 1857.

DR. MEIGS deserves the thanks of all who are interested in the subject of cranioscopy, for his efficient labor in arranging the large collection of skulls in the Academy of Natural Sciences, and for the equally efficient manner in which he has succeeded in framing a catalogue of the same. The work is not, however, simply a list of the various specimens, but is more or less descriptive, and illustrated by numerous wood-cuts, which render it of essential service to persons at a distance. The following extract from the "explanatory note," prefixed to the Catalogue, will give our readers some idea of the character and extent of this magnificent collection:

> Since the death of the late lamented President of the Academy of Natural Sciences,—DR. SAMUEL GEORGE MORTON,—his magnificent Collection of Human Crania, recently increased by the receipt of 67 skulls from various sources, has been permanently deposited in the Museum of the Academy. Prior to his demise, Dr. M. had received 100 crania in addition to those mentioned in the third edition of his Catalogue. Since 1849, therefore, the collection has been augmented by the addition of 167 skulls. To complete the Catalogue in a uniform manner, these have been carefully numbered and measured in accordance with the

methods recorded in the *Crania Americana*, &c. In a portion of these measurements I was kindly assisted by our fellow-member, Dr. Thomas J. Turner, of the United States Navy.

The entire collection, numbering 1035 crania, was purchased by forty-two gentlemen from the executors of Dr. Morton, for the sum of $4000, and by them generously presented to the Academy.

The collection occupies sixteen cases on the first gallery, on the south side of the lower room of the Museum. For convenience of study and examination, I have grouped the crania according to race, family, tribe, &c., strictly adhering, however, to the classification of Dr. Morton. It will be seen, also, that the same arrangement has been adopted in this edition of the Catalogue, so that it is an exact representation of the collection as it stands upon the shelves. While the old numbering has been carefully preserved for the sake of reference to the various published descriptions of Dr. Morton, new numbers have been added to designate the position of any skull in the natural division or subdivision to which it belongs.

The Suevic, Cimbric, and Scandinavian divisions of the great Teutonic race, are represented by 32 crania and three casts, distributed as follows: 1 Norwegian, 7 Swedish peasants, 2 Swedes from Finland, 3 Swedes from Sudermanland, 1 Ostrogoth, 1 Turannic Swede, 2 Cimbric Swedes, 1 Cimbrian from Moën Island, 11 Germans, 1 Dutchman, 4 Prussians, and 1 Ancient Burgundian. Among these I have also placed 3 Swedish Finns, which, though mixed, are more Swedish than Finnish. Next to these, from their affinity, have been arranged the heads of 9 true Finns, and a cast of a Finlander's skull.

Of 4 Swedish peasants, the highest internal capacity is 99, the lowest 65, while the average of the group is 83 cubic inches. Of 2 Swedes from Finland, the larger is 107·5, the smaller 93·75, and the mean 100·62. Of 3 Swedes from Sudermanland, the highest measurement gives 108·25, the lowest 102, and the mean 101·41 inches. Of 2 Cimbric Swedes, the higher is 94, the lower 80, the mean 87. Of 10 German heads, the highest is 104, the lowest 70, and the mean of the series 88·6. The skull of a Dutch gentleman (No. 434), is the largest in the entire collection, for it measures 114 cubic inches of internal capacity. 4 Prussian skulls give 92 for the highest, 80 for the lowest, and 83·5 for the mean. The average for this branch of the Teutonic family, as deduced from the foregoing measurements is about 94 cubic inches.

Of 3 Swedish Finns, the highest internal capacity is 89, the lowest 85, and the mean 87 inches. Of 9 true Finns, the highest is 113·5, the lowest 81·5, the mean 94·3. A large proportion of this valuable series, from Nos. 1545 to 1550, and from 1542 to 1541, were received from Professor Retzius, after the death of Dr. Morton.

ART. VIII.—*The Microscope: its History, Construction, and Application.* By JABEZ HOGG, M.R.C.S. London.

OUR Transatlantic neighbors have so often indulged in whining complaints of the appropriation of their literary labors by others, that it has become a sort of stereotyped criticism upon American publications, no matter how faithfully they may have given credit to their contemporaries when occasion required a reference to their productions. In the instance, however, now before us, the boot is on the other foot. The book of Mr. Hogg has, no doubt, considerable merit as a compilation; and in giving it this title, we mean no disrespect, for it is our opinion, that no useful book on the microscope has been, or can be written, which is not, to a great extent, a compilation. Even Quekett, whose work is regarded as a standard, is largely indebted to his predecessors, especially the works of Pritchard and Goring. Yet that some notice should be taken of their researches, is certainly due to those who have gone before, no matter to what nation they belong. In the work of Mr. Hogg, this common principle of courtesy, and we might add, of honesty, is entirely ignored in reference to an American author, the first, we believe, in this field of research in this country, Dr. Joseph H. Wythes, from whose book, "The Microscopist," whole paragraphs, and nearly an entire chapter, have been copied *verbatim et literatim*, without the slightest acknowledgment or reference—a *Hogg-ish* proceeding certainly.

That we have not made this charge without foundation, will be evident from a comparison of the following paragraphs from the works in question:

Hogg on the Microscope.	*Wythes' Microscopist.*
"Mr. Goadby has succeeded in supplying to microscopists a ready, cheap, and effectual means for mounting animal structures with the greatest possible ease and security. The following are his formulæ: "Take for No. 1 solution, bay salt, 4 oz.; alum, 2 oz.; corrosive sublimate, 2 grs.; boiling water, 1 quart; mix. "For No. 2 solution, bay salt, 4 oz.; alum, 2 oz.; corrosive sublimate, 4 grs.; boiling water, 2 quarts; mix. "The No. 1 is too strong for most purposes, and should only be employed where great astringency is needed to give form and support to very delicate structures. No. 2 is best adapted for permanent preparations; but neither should be used in the preservation of animals containing carbonate of lime (all the mollusca), as the alum becomes	"Dr. Goadby has devoted much attention to this subject, and has succeeded in supplying to the microscopist a ready, cheap, and effectual means for mounting animal structures with the greatest possible ease and security. Dr. G. received a gold medal from the Society of Arts for his invention. He has kindly furnished me with the following description of his different preserving fluids: "'A 1. Bay salt (coarse sea salt), 4 oz. Alum, 2 oz. Corrosive sublimate, 2 grs. Boiling water, 1 quart. "'A 2. Bay salt, 4 oz. Alum, 2 oz. Corrosive sublimate, 4 grs. Boiling water, 2 quarts. "'The A 1 fluid is too strong for

decomposed, sulphate of lime is precipitated, and the preparation spoiled. "For such use the following," &c. (p. 83.)	most purposes, and is only to be employed where great astringency is required to give form and support to delicate structures. "'The A 2 fluid may be very extensively used, and is best adapted for permanent preparations; but neither of these fluids should be used in the preservation of animals possessing any carbonate of lime (all the mollusca), as the alum becomes decomposed, and the sulphate of lime is formed and precipitated, and the animal spoiled. For such use the B fluid,'" &c. (p. 57.)

Mr. Hogg, it seems to us, has taken more trouble in endeavoring to improve the style of the above than would have sufficed to have given credit for the extract. Again, we pursue the comparison:

Hogg on the Microscope, p. 84.	*Wythes' Microscopist*, p. 159.
"For minute injections, the most essential instrument is a proper syringe. This is usually made of brass, of such size that the top of the thumb may press on the button at the top of the piston-rod when drawn out, while the body is supported between the two fingers. Fig. 65 represents the syringe."	"For minute injection (as it is called), the most essential instrument is a proper syringe. This should be made of brass, of such a size that the top of the thumb may press on the head or handle of the piston-rod when drawn out, while the body is supported by two of the fingers of the same hand. Fig. 50 represents a syringe, with which I have succeeded in making some excellent preparations."

The description of the syringe and the woodcuts are identical in the two works.

"In addition to the syringe, a large tin vessel, to contain hot water, with two or three lesser ones fixed in it, for the injections, will be found useful."	"In addition to the syringe, a large tin vessel, to contain hot water, with two or three lesser ones fixed in it for the injections, will be found useful."

Mr. Hogg gives a woodcut of such a vessel, and its description, with another cut and description of an aneurism needle, is the only part of his chapter on minute injections which is not extracted verbatim from Dr. Wythes' work, without the slightest acknowledgment. Not contented with this dishonorable conduct, Mr. Hogg mutilates his extracts so as to rob our townsman, Dr. Goddard, of his due credit, and also, so as to make certain remarks of Dr. Goadby appear like recommendations of his own. The following is the proof:

Hogg, page 87.—“Another process, which may be termed the chemical process, was published in the *Comptes Rendus,* 1841, as the invention of M. Doyere. According to this an aqueous solution,” &c.

* * * * * * *

“I would recommend that the slips of glass employed,” &c. page 88. “Although highly desirable, as the demonstrator of the capillaries of *normal* tissues, I do not think this kind of injection fitted for morbid preparations,” &c.

Wythes, page 163.—“Another process, which may be termed the chemical process, was published in the *Comptes Rendus,* 1841, as the invention of M. Doyere, though the credit of first suggesting it is due to Dr. Goddard, of Philadelphia. According to this, an aqueous solution,” &c.

In the “Microscopist,” these paragraphs, with others of a similar kind, are quoted from a paragraph furnished by Dr. Goadby.

Again:

Hogg, p. 88.—“Still another plan has been suggested. It consists in adding a quantity of sulphuric ether to the finely levigated coloring matter, which is also first ground or mixed with linseed oil, in the manner employed by painters. Upon this plan (as well as upon the last named), some beautiful injections of the smallest capillaries are made; but sometimes it is a failure, owing to the too rapid evaporation of the ether, and the clogging up of the vessels from the early deposition of the solid coloring matter. Perhaps a solution of gum mastic in ether, colored with fine vermilion, will answer the purpose better.”

Wythes, p. 166.—“Still another, and in some respects a more certain and convenient plan has been employed by Dr. Goddard, of Philadelphia. It consists in adding a quantity of sulphuric ether to the finely levigated coloring matter, which is also first ground or mixed with linseed oil, in the manner employed by painters. Upon this plan (as well as upon the last named), I have succeeded in making some beautiful injections of the smallest capillaries, yet I have sometimes failed, owing to the too rapid evaporation of the ether, and the clogging up of the vessels from the early deposition of the coloring matter. I have also observed, that after the ether has evaporated from the vessels, the particles of coloring material cohered with too little tenacity, so that on putting a section of injected tissue into turpentine, &c., the color has been washed out from the cut ends of the larger vessels. Perhaps a solution of gum mastic, &c., in ether, colored with fine vermilion, &c., will answer the purpose better.”

We can scarcely trust our pen to express our utter contempt for the conduct of which Mr. Hogg has been guilty, and dismiss the subject with the above *exposé* of his plagiarism.

ART. IX.—*The Physiological Anatomy and Physiology of Man.* By ROBERT BENTLEY TODD, M.D., F.R.S., Fellow of the College of Physicians, and Physician to King's College Hospital; and WILLIAM BOWMAN, F.R.S., Fellow of the College of Surgeons, Surgeon to King's College Hospital and The Royal London Ophthalmic Hospital; late Professor of Physiology and General and Morbid Anatomy in King's College, London. Republished by Blanchard & Lea, Philadelphia, complete in one volume, 8vo. pp. 926. With two hundred and ninety-eight Illustrations, 1857.

AFTER nearly fourteen years of not unremitted but severe labor, upon the part of the distinguished authors, this great work is at length brought to completion. The successive parts which have appeared from time to time, each immediately received the sanction of all true lovers of the science of histology, and long before the last was ready for the press, the work was quoted everywhere as the standard authority upon the various subjects treated of. We cannot therefore look upon the book as a new one, except so far as the concluding chapters are concerned, and all that we can at present say in regard to these, is that they fully bear out the high expectations that were based upon the former parts. We hope before long to return to this subject, for if there is a scientific book in the English language deserving our commendation, and an attempt to set forth its excellent qualities, in a way which shall lead some few, at least, to its appreciative perusal, it is the work in question.

And here we desire also to return our sincere thanks to the enterprising publishers, for furnishing the profession of this country with a book of such merit, at a comparatively trifling cost, and without, in the language of a well-known Boston reviewer, an "ascaris in the form of an appendix," by an American editor.

ART. X.—*The Change of Life in Health and Disease.* By EDWARD JOHN TILT, M.D. 8vo. pp. 307. Second Edition, London, 1857.

THE comparatively short time which has elapsed since the appearance of the first edition of Dr. Tilt's work on the physiology, and the diseases incident to women between the fortieth and fiftieth years, before a second is called for, is some evidence of the high estimation in which it is held by the profession of Great Britain. The force of this evidence, however, is somewhat weakened by an attempt upon the part of the author to give a somewhat popular air to his production, an attempt, however sure it is always to fail in reference to the professed objects of the author, namely, the enlightenment of the public, is certain to add largely to the sale of the work, to say nothing of its influence upon the practice of such benevolent gentlemen.

But notwithstanding this unprofessional leaning, the book of Dr. Tilt is a valuable addition to our literature upon the subject treated of, and may be appealed to as containing nearly if not quite all that is known concerning not only the physiology, but the pathology, therapeutics, and hygiene of the critical period. Many of the tables are especially valuable, the results drawn from one of which may be new to most of our readers. We refer to the statement in reference to protracted menstruation and fecundity, in which the author has established the fact "that of 10,000 pregnant women, 436 were upwards of forty years of age; and of these 51 exceeded the age of forty-five, and 3 the age of fifty; one being fifty-two, another fifty-three, and the third, fifty-four."

By far the most valuable chapter in the work is that on the "General Principles of Treatment at the Change of Life," which it would be well for many practitioners to study, more especially those who are in the habit of being guided in these matters by the "old wimmen" of their respective neighborhoods.

Original Communications.

ART. I.—*Urethro-Vaginal and Vesico-Vaginal Fistules: Remarks upon their Peculiarities and Complications: Their Classification and Treatment: Modifications of the Button Suture: Report of Cases Successfully Treated.** By N. BOZEMAN, M.D., Montgomery, Alabama.

SOMEWHAT more than a year ago, my first paper on Vesico-Vaginal Fistule and its treatment, appeared in the Louisville Review. The views which I then endeavored to present of that disease, differ in no respect from those which had been, and are at present entertained by the profession at large; but in its treatment, I claimed to have made an important improvement, by what I termed the *Button Suture.*

Whether such a claim was based upon data sufficiently conclusive to entitle it to the credit of a place among the great modern improvements in surgery, I leave entirely to an enlightened and discriminating profession to decide.

The manner in which I was led to adopt the above mode of treatment is already before the public, and, consequently, need not be repeated here. My convictions as to its many advantages over all other methods were then, it is true, based upon a limited experience—seven successive and successful operations. Still, that experience was to me doubly conclusive, as it was acquired under many disadvantages. Hence it was that I spoke positively, some may think arrogantly, of the superiority of the improvement which I conceived to have been made.

---

* The report of the cases, fifteen or sixteen in number, will appear in the next issue of the Review.

In this place, I have only to reiterate what I formerly said in favor of this form of suture. Further experience, of not only myself, but of others, fully justifies me in the importance I then attached to it.

The only change which my mind has undergone is in regard to the material of which the button should be made. In my former paper, it may be recollected that I gave the preference to silver, for the following reasons: "it is lighter, less likely to yield under pressure, admits of a higher polish, and allows the wires to be drawn through the small holes without dragging."

Admitting even now the above qualities of silver to be superior to those of lead, still, experience teaches me that they are not so essential as I formerly supposed. All these qualities, I consider, are more than counterbalanced by the softness and flexibility which lead possesses. On account of these two qualities possessed by lead, every operator, by employing that metal, is enabled to make his own buttons, and, if necessary, while his patient is on the table. When the lead is rolled out to a proper thickness, no other preparation to work it is required than a pocket knife, a punch, a small hammer, and a smooth iron plate; or, what is still better than the latter, a very small anvil, for upon this the required curves can be better formed. Very different is it with silver, to prepare which, it is necessary to employ a regular smith, who may not understand exactly what is wanted, and, even if he does, there are many little modifications in shape required which he cannot give unless the surgeon be present to point them out. Hence trouble and delay are liable to be experienced in operating, leading, perhaps, occasionally to the application of a contrivance which does not answer the purpose for which it was intended. No operator is prepared to treat the worst forms of fistule without being able, I repeat, to make his own buttons. He must always know what kind of a surface his button is to stand upon before the latter can receive the proper shape, a fact which can never be ascertained with certainty until his sutures are adjusted. Hence, again, the importance of having at hand a material out of which he can make, in a few minutes, the necessary device to meet all the indications. To this fact alone I attribute a great deal of my success in the management, as will be presently seen, of almost every variety of case which a surgeon is liable to meet with.

To what extent then has the button suture been approved by the profession, presented, as it was, upon its intrinsic merits alone? This, I think, may be partly inferred from the results obtained by its employment in the hands of other practitioners. Some of these results have already been given to the public through the journals, both of this country and Great Britain; and others have been communicated to me in a way equally reliable. The names of the surgeons who have operated according to this method, are, in our own country, Dr. Gaston,* of Columbia, S. C.; Dr. T. Wood,† of Cincinnati; Dr. Kollock,‡ of Savannah; and Dr. Williams, of this city; and, in Great Britain, Mr. Isaac Baker Brown;§ and Dr. Wm. Spencer Wells,‖ the former of the St. Mary's and the latter of Samaritan Hospitals, London.

There are others, doubtless, who have employed this form of suture, but as yet their results have not come to my knowledge. I regret very much that the limits of this paper will not allow me to present the minute details of the cases reported by the above gentlemen. Suffice it to say that most of their operations were performed under unfavorable circumstances, and none, so far as I have been able to learn, excepting in one instance, required repetition. This was in the case of Dr. Williams; and judging from this gentleman's account of the difficulties which he had to contend with, the success attending even his second operation was remarkable, and not only proves the advantages of the method adopted, but reflects great credit upon Dr. Williams's skill as an operator. Several of the other cases had been previously operated upon, according to other methods.

Whether these results corroborate my former statement as to the superiority of the button suture over all other methods or not, they will, at least, show with how much certainty any one who chooses to perform the operation may look for like success.

Before referring now to the results of my own practice since the appearance of my former paper, I propose offering some remarks upon the peculiarities and complications of *Urethro-Vaginal* and *Vesico-Vaginal Fistules*, with a view to their classification and treatment by certain modifications of the button suture, now presented to the profession for the first time in a systematic form.

Urinary fistules, appertaining to the female, present great diversity of forms, as every one who is at all familiar with the subject must know. It is the rarest thing, indeed, to meet with two cases exactly alike. The urethra may, for example, be found simply cut in two, or slit at any point, or torn at its outer extremity. Again, the fistule may be situated in the trigonus vesicalis or the *bas-fond* of the bladder; in either of which regions its size may vary from that of a fine probe, to that of a quarter of a dollar, or even something larger.

---

* MS. Letter to the Author.

† Western Lancet.

‡ MS. Letter to the Author.

§ London Lancet.

‖ Times and Gazette.

In the third place, it may be formed at the expense of a part or nearly the whole of the former of these regions, and the root of the urethra, or both together, or of the latter alone. Lastly, it may complicate the cervix uteri in various ways, as I shall presently point out more particularly. In all these varieties the vaginal canal suffers more or less contraction, and, as very often seen, may be divided into different compartments, or cul de sacs, by hard and unyielding bands.

A proper classification, comprising all the varieties of fistule, I consider of the greatest importance in a practical point of view. The inexperienced operator, without such an arrangement to guide him in the details of his treatment, will find his way to success beset with many difficulties, and will, consequently, often experience disappointments.

Velpeau,* in his classification, makes three divisions, as follows:

1st class embraces all those fistules "which cause a communication between the urethra and vagina."

2d class is made up of "those which are established at the expense of the trigonus vesicalis."

3d class comprises all those situated in the *bas-fond* of the bladder.

I have no objection to the classification of this illustrious author and operator, and shall adopt it so far as it goes. But there are cases, according to my experience, which cannot be referred to any one of these divisions, and, from their importance, deserve a separate consideration.

Therefore, that every case presenting itself to the surgeon may be arranged under its appropriate head, I propose to extend the classification of Velpeau, by adding two other divisions, making in all five.

The 4th class I would have to embrace all those fistules formed at the expense of a part or the whole of the vesical trigone and the root of the urethra; of the trigone and *bas-fond* of the bladder; or, all three of these regions together.

In the 5th class, I would include all those complicating the cervix uteri, either with or without injury.

As to the extent of each fistule belonging to each of these several classes, it may be very small, or it may involve nearly the whole of its respective region or regions, as may be seen by reference to some of the illustrative cuts in a subsequent part of this paper.

In cases of double or triple fistules, the openings may belong to one class alone; in any event they would be likely to be small, as is usually observed in those forms of the disease. I have myself seen two, but never three. Only one generally is referable to a class. As regards the frequency with which each class is met with, an examination of twenty-four cases, enables me to give the following summary:

---

* Operative Surg., vol. iii, p. 530.

Of the twenty-four cases, eighteen were single, four double, and two triple, making an aggregate of thirty-two fistulous openings. Twenty-seven of these fistules were vesico-vaginal, and five urethro-vaginal. Three of the double cases were vesico-vaginal, and the others urethro-vesico-vaginal. Both triple cases were urethro-vesico-vaginal.

The whole, then, may be arranged under the following heads:

Single Fistules, ...	18 cases.
Double "	4 "
Triple "	2 "
Class 1st, ...	5 fistules.
" 2d, ...	9 "
" 3d, ...	6 "
" 4th, ...	3 "
" 5th, ...	9 "

It would appear, then, from the foregoing, that fistules of the vesical trigone, and those complicating the cervix uteri, occur equally in point of frequency, and that both these classes together comprise 59 per cent., or somewhat more than one half of all. Those of the *bas-fond* of the bladder come next; then those of the urethra, which together constitute about 34 per cent., or about one-third. Lastly, it will be seen that fistules of the fourth class are the least frequent, amounting to only about 9 per cent.

Fortunately, the fourth class is rare, for I regard fistules of the first and third varieties of this class, presently to be described, as the most unfavorable forms of the disease ever met with, especially if much of the urethra has been destroyed; for in that event incontinence of urine is liable to follow, however successful an operation may be.

I might, in this connection, illustrate the peculiarities of each of these several classes with cases which have come under my own observation, but this I deem entirely unnecessary. After noticing, therefore, class first, I shall pass over the second and third with only a few remarks to a consideration of the fourth and fifth, which are infinitely the most difficult forms of the disease to understand, and the successful management of which must be viewed as one of the greatest triumphs of surgical art.

The cases to which I have just alluded as claiming our attention, present, as I shall presently show, several varieties, and to assist in a better understanding of them, and the modifications of the button required in their treatment I have introduced drawings* illustrative of each. Those intended for the former purpose were taken from a vagina with its posterior wall removed by a horizontal section. The observer is therefore supposed to be looking at the different fistulous openings from behind.

---

* These drawings were executed by my friend, Mr. Edward King, of this city, for whose trouble and kindness I desire here to express my sincere thanks.

Class 1st. This class comprises all injuries of the urethra which establish a communication between it and the vaginal canal.

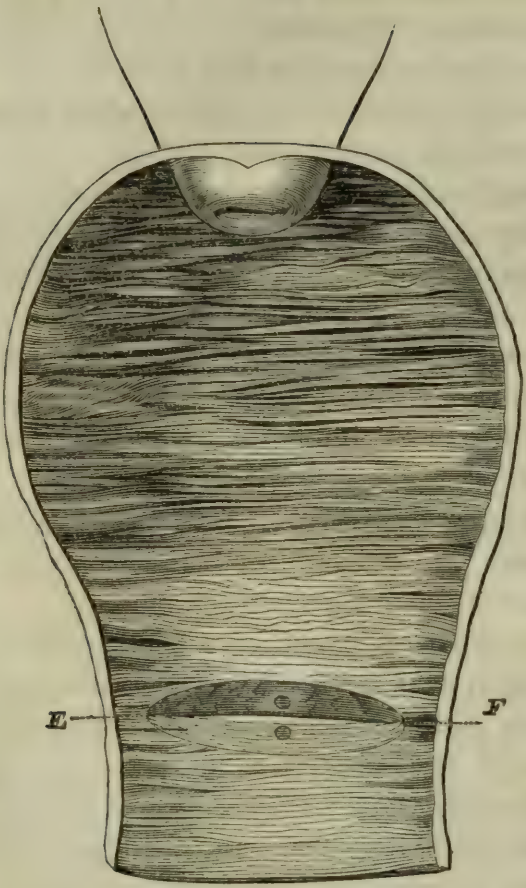
I say *injuries*, so as to include every variety; for there is one form of communication, at least, according to my experience, which cannot be properly termed a fistule. I refer to a rent extending from the meatus urinarius backwards, to a greater or lesser extent. The distinctions I consider of very great practical utility, and I am surprised that they should have been overlooked by M. Velpeau and other writers upon the subject. The shortening which the urethra undergoes by such an injury, is attended by some very unpleasant consequences: as, for instance, an irritable condition of the sides of the rent, and an escape of a small portion of the urine into the vulva during micturition; the fluid running down upon the thighs, and adding very much to the annoyance of the unfortunate subject.

Of the five cases belonging to this class, which have come under my observation, three were of this variety, showing that it is not of infrequent occurrence. My experience teaches me that it is the most unfavorable form of all the urethral injuries. It would be interesting to know the cause of this accident. I have inquired closely into the subject, but as yet have not been able to obtain any satisfactory information. In two of my cases, instruments had been used to effect delivery, but in the other, nothing of this sort occurred. Yet in all three cases, the nature and extent of the injury were almost identically the same, the rent being about three quarters of an inch in length. Could the awkward use of a catheter be attended by such a result? I have thought that this might be the true explanation.

Another variety of urethral injury is a mere opening or slit in the canal, which may be at its middle or near either end; and still another, where the canal is completely cut in two. This latter, I imagine, is very rare, and, when it does occur, will generally be found situated near the mouth of the canal, and is evidently produced by the parts being pinched between the child's head and the edge of the pubic bones during labor. Regarding it as a very peculiar and interesting form of the disease, I have introduced the annexed cut, Fig. 1, as an illustration of the only case I ever met with. E and F are the two ends of the urethra.

Classes 2d and 3d. These two classes, one including fistules of the trigone, and the other those of the *bas-fond* of the bladder, according to my experience, comprise about one-half of all the fistules met with in practice. They constitute the most simple forms of the disease which we

Fig. 1.



are ever called upon to treat. For this reason, and the want of space, I shall dismiss their further consideration, contenting myself with a reference to my former paper upon the subject, where all necessary information in regard to their nature and treatment may be found. The four cases there reported belong to the one or the other of these classes.*

Class 4th. Fistules of this class, as already stated, are formed at the expense of a portion of the vesical trigone, and the root of the urethra; of the former of these regions and a part of the *bas-fond* of the bladder; or of all three of these regions together. The first variety here mentioned is of rare occurrence. I have myself met with but two instances of it.

The annexed drawing, Fig. 2, is an illustration of this variety. The opening, it will be seen, involves only a small portion of the trigone, and, perhaps, not more than one-eighth of an inch of the urethra. It is oval in shape, with its longest diameter transverse, a peculiarity which will generally be found to exist. The posterior edge, soft and yielding, can, in nearly if not quite all of such cases, be brought down so as to close the opening without disturbing the anterior edge, which latter is always immovably fixed to the pubic bones. In addition to this peculiarity of the anterior edge, there is another, sometimes met with, which has a very important bearing upon any operative procedure that may be adopted. I allude to its inversion, in which case coaptation of the two edges is rendered impossible, and the action of the sphincter vesicæ, if any remains, must, to some extent at least, be destroyed. Cases presenting this feature cannot, therefore, be regarded otherwise than unfavorable. Of the second variety of this class, I have not seen a single instance. When it occurs, as most unquestionably it does sometimes, I would regard it almost as favorable as the varieties of the two preceding classes. Both borders of the opening would be likely to prove yielding and quite susceptible of mutual approximation.

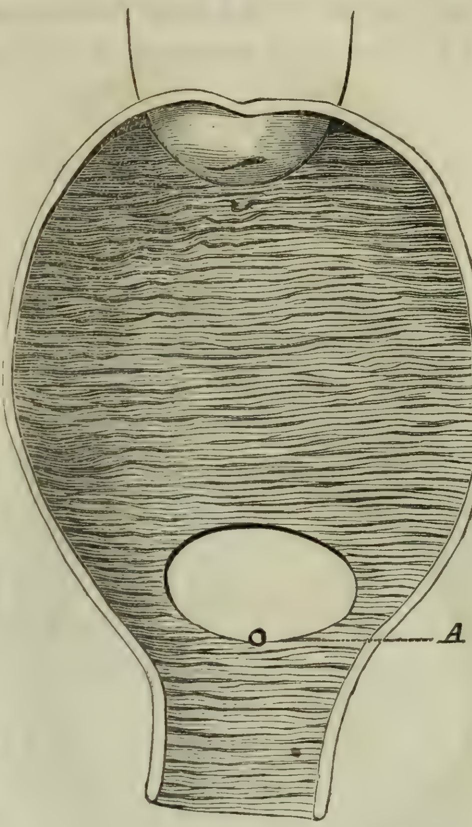
---

* See Louisville Review, May, 1856.

The third variety I have met with but once, and, considering the nature and extent of the injury, it must be looked upon as by far the most unfavorable form of fistule ever presented to the surgeon. Not but what it is just as readily closed as some of the other forms. The idea I wish to convey is, that the result of the operation will be incomplete, owing to so much of the root of the urethra, and the trigone, and *bas-fond* of the bladder having been destroyed.

In this variety, too, we are almost certain to find the same peculiarity of the anterior edge pointed out in connection with the first,—namely, inversion. This, of course, always adds to the unfavorableness of the case; and upon the existence of this feature I have based an operative procedure which, so far as my information extends, has never before been employed by any one else. This will be described in its appropriate place.

Fig. 2.



The annexed cut, Fig. 3, is a view of the fistulous opening in the case last mentioned. It is a most excellent type of this variety in its very worst form. The opening is quite large, measuring one inch and seven-eighths transversely, and one inch and three-eighths longitudinally. The dotted line represents the inverted border, and X the beginning of the urethra.

Class 5th. This class embraces all fistules, of whatever shape or size, to which the cervix uteri, whether itself injured or not, bears close and important relations. I have stated that about 29 per cent. of all the cases met with in practice belong to this class. The varieties which it presents are several, and from their peculiarities and importance, claim our special attention. These I shall attempt to point out as precisely as possible, as I go along, for upon them is based some of my most valuable modifications in the plan of treatment by the button suture.

First, the fistulous opening may be found extending just across the tip of the anterior lip of the cervix uteri, which latter forms its posterior border. It may be barely large enough to admit the index finger, or it may involve nearly the whole of the *bas-fond* of the bladder. The accompanying cut, Fig. 4, is an illustration of the latter extreme of this variety. I have met with two cases of this description.

Fig. 3.

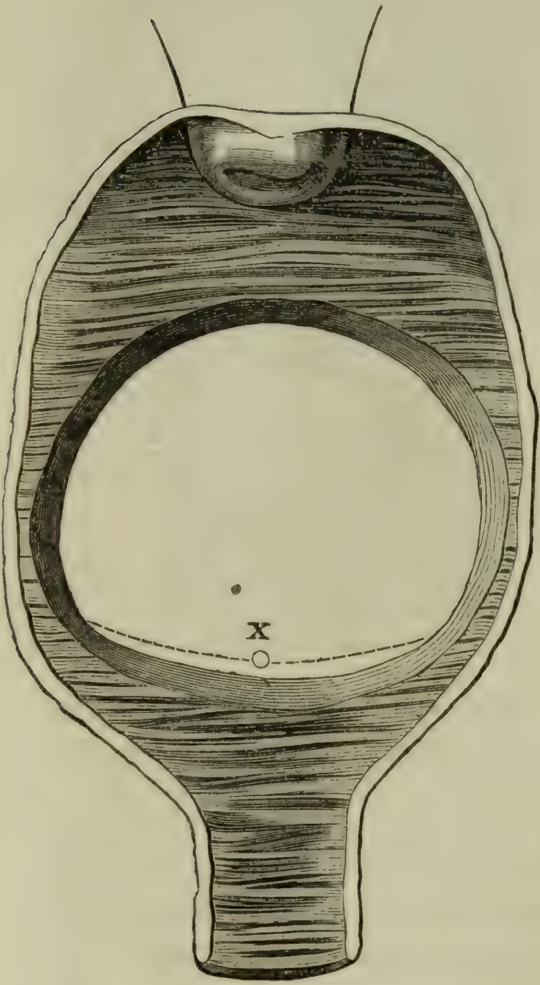
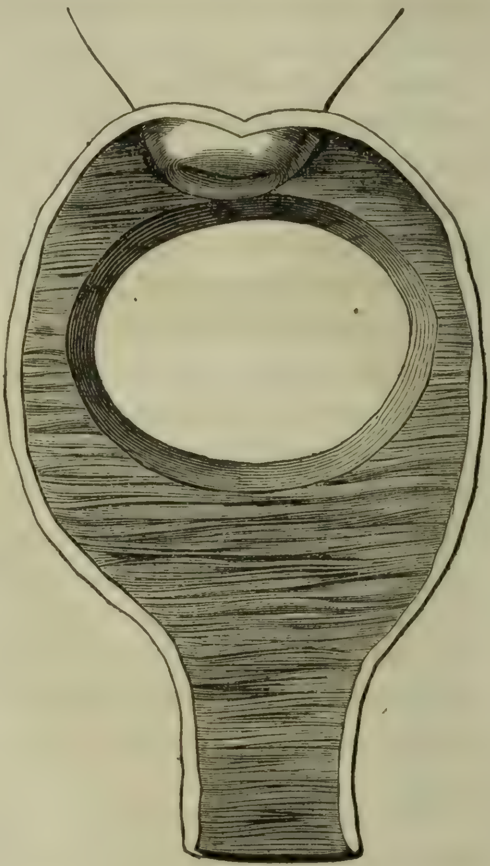


Fig. 4.



Secondly. Nearly the whole of the *bas-fond* and trigone of the bladder may be implicated, and in some instances, indeed, even the root of the urethra. The former variety I have seen, but not the latter. In my case, the whole of the space between the cervix uteri and mouth of the urethra had sloughed out, the destructive process involving the extremities of both ureters. The opening measured one inch and five-eighths transversely, and one inch and three-eighths longitudinally. The accompanying figure, 5, represents the size and shape of the fistule, and the points related to it. D, is the mouth of the urethra; B, the left ureter;

and C, the right. The last, it will be seen, is represented as opening on the vaginal side of the septum. This condition really existed, and resulted from an eversion of the edge of the fistule at this point. In addition to the above, the anterior border was immovably fixed to the pubic arch.

Thirdly. The fistule may present the appearance of a longitudinal or oblique slit through the vesico-vaginal septum, complicated with a rent in the anterior lip of the cervix. The rent may be in the centre, or at one corner of the lip, and the line of its axis may or may not correspond to that of the fistule. In the latter form, the axes of the two, I imagine, never correspond. The accompanying drawing, Fig. 6, represents a longitudinal fistule complicating the anterior lip at its centre. Fistules of this variety are generally formed without much loss to the vesico-vaginal septum; differing widely in this respect from the other varieties belonging to this class. I have met with both these varieties.

Fig. 5.

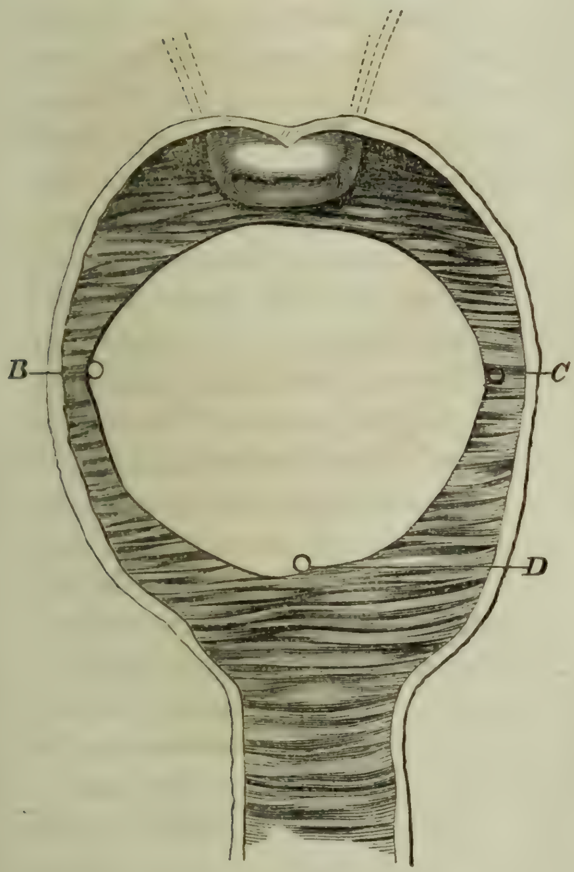
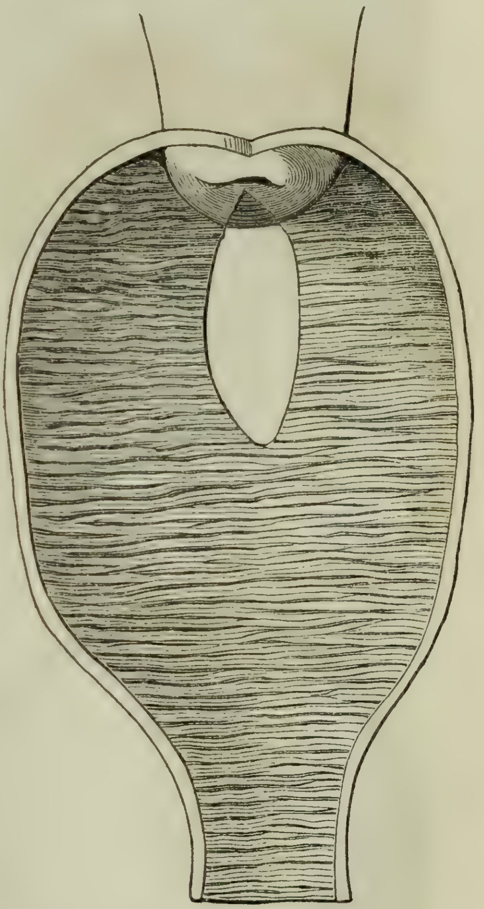


Fig. 6.



Fourthly. Whether the fistule be longitudinal or transverse, small or large, the cervix is not complicated with it in the form of a simple rent, but a part or the whole of that portion included within the vagina, or

Fig. 7.

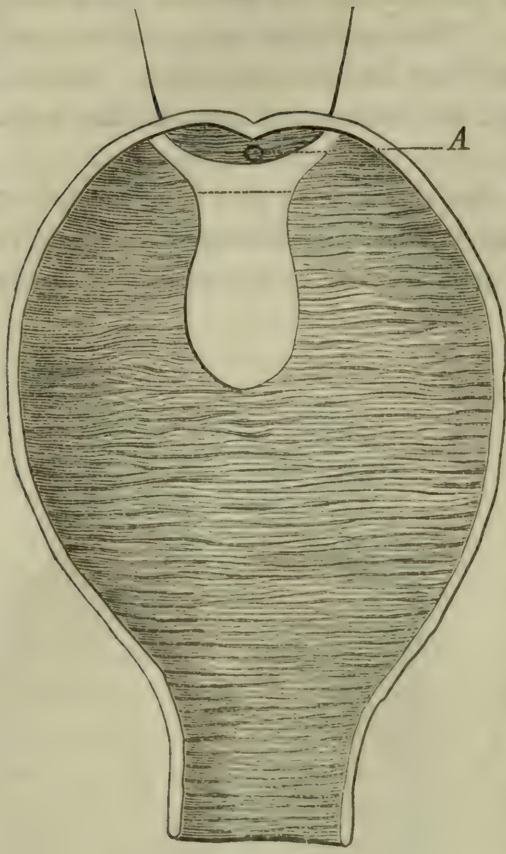
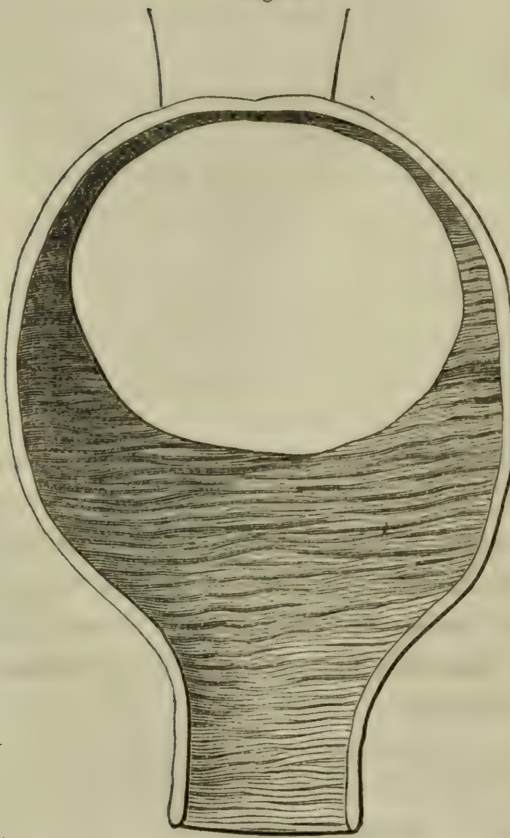


Fig. 8.



even more, may have been destroyed, with or without closure of its canal. It is this form of injury which M. Jobert claims to have been the first to describe under the name of Vesico-Utero-Vaginal Fistule.

The accompanying sketch, Fig. 7, of a case now under my charge, illustrates one form of this injury, in which there is a loss of the cervix. The fistule in this case, as will be seen, is of a peculiar shape. Its upper part (defined in the figure by a dotted line carried across the fissure), is longitudinal, and formed at the expense of the vesico-vaginal septum; while the lower is transverse, and corresponds to that part of the cervix destroyed. A, marks the relative position of the uterine orifice. Another sketch, Fig. 8, of a case which I have just cured, shows the entire loss of the vaginal portion of the cervix and the vaginal attachment to its anterior aspect. The cervical canal, so far as I have yet been able to ascertain, is completely closed. Not even a depression exists to indicate its whereabouts.

This complicated fistule, as will be seen, is nearly circular, and includes almost the whole of the *bas-fond*, and a part of the trigone of the bladder. The cases which these two last drawings illustrate, come under the head of vesico-utero-vaginal fistules, according to Jobert, and are the only ones I have ever met with.

As to the other form of cervical injury, described by the above surgeon under the head of *Vesico-*

Uterine Fistule, I have yet to see a case, and as it has not presented itself once in twenty-four cases, I infer that it must be exceedingly rare. Indeed it is difficult for me to conceive how a communication could be established between the bladder and the cervical canal without implicating the vagina. From my knowledge of the anatomical relation of the parts, I know that such a thing is possible; but the question is, could a cause be brought to bear upon a space so contracted as to produce the result? If Velpeau's account of this form of injury is correct, then Jobert makes a distinction without a difference between it and vesico-utero-vaginal fistule. In speaking of Jobert's first case, he says: "The anterior wall of the neck of the uterus, and the corresponding portion of the bladder were entirely destroyed."* Now I ask how could the anterior wall of the cervix be entirely destroyed without involving the vagina? Without discussing this point further, I am forced to the belief that even Jobert himself never met with a case which could be appropriately called vesico-uterine fistule,—that is, if Velpeau's interpretation of his views are correct. However, whether one or both of these forms of cervical injury are appropriately named or not, is of but little consequence in a practical point of view. They appear to me to be liable to cause confusion, without, in the least degree, aiding in a proper understanding of the subject. For this reason, if no other, I shall consider all the varieties of fistule belonging to the class now under consideration, under the head of Vesico-Vaginal, and the different injuries of the cervix uteri as mere complications, which do not deserve to be regarded in any other light.

Treatment.—I shall call attention first to the management of rents at the outer extremity of the urethra, and for reasons such as those given in a previous allusion to the second and third classes, shall then pass on to a consideration of the special treatment applicable to the different varieties of the fourth and fifth classes.

I have already mentioned that the variety of urethral injury above referred to has hitherto been almost, if not entirely neglected by writers upon the subject. Of course, therefore, no special plan of treatment, at least none sanctioned by experience, is to be found upon the records of the profession. Velpeau, in speaking of a case which he had at La Charité, in which the fistule was situated near the extremity of the urethra, says that, "he confined himself to the extirpation of the urethral bridle which separated the fistule from the meatus urinarius."† By this procedure he produced the very same form of injury, the treatment of which I am now about to describe. As a preliminary step, this course of Velpeau's may, under some circumstances, be justifiable; but does our obligation to the patient cease with this? It would really seem so from a further remark of this surgeon. For, says he, "this small operation was attended with entire success." Now if fistules of this class, because they are near the meatus urinarius, are to be treated in this way, without anything further being done, it does seem to me that such surgical interference as the above is worse than useless; for by it we convert a simple form of injury into one which will more severely tax the patience of the surgeon to effect a complete cure than almost any of the other varieties pointed out as belonging to this or the two preceding classes. A plan of treatment then, adapted to this form of injury, is, I maintain, of the utmost importance. Whether the comfort of the patient is sufficient inducement for its employment or not, the credit of our art requires that it should, at least, be placed upon a sure basis.

---

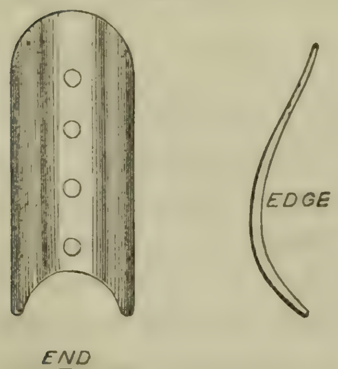
* Op. cit. vol. iii, p. 872, Am. Appendix, by G. C. Blackman, M.D.

† Op. cit. vol. iii, p. 530.

The following procedure, which I am in the habit of practising, will be found simple, easy to perform, and, according to my experience, well-suited to the purpose.

First, the sides of the cleft should be thoroughly pared, and sutures introduced, and the parts brought together as in any other variety of fistule. But in doing this a very important point is to be borne in mind, viz., getting rid of the action of the urine as it passes through the newly formed channel. This must always be attended to if we expect to succeed. As a protection to the parts, therefore, a catheter would very naturally suggest itself, and I consider this the only means that could be devised. But this alone is not sufficient to insure a perfect result, however well the operation may be performed,—and why? Because the instrument, the very means employed to ward off one difficulty, becomes itself an impediment to union of the parts by the first intention. This impediment is caused by the weight of the instrument, and cannot well be prevented, no matter what form or variety be employed.

Fig. 9.



There being no support to the catheter at the meatus, its constant tendency is to tilt downwards between the two denuded edges of the cleft, however well they may have been brought together. Partial or complete failure will, therefore, be the inevitable result. Now, how is this support to be obtained? Certainly, not by attaching a contrivance to the body of the patient, or to the couch upon which she is lying; for the slightest movement of the former would derange the whole affair. The only way in which I have been able to attain the desired end is by a modification of the button, which I employ in cases of vesico-vaginal fistule. The accompanying sketch, Fig. 9, is a representation of such a contrivance. The usual shape of the button is preserved, with the addition of the notch in the end and the curve indicated in the side view. It is also a little narrower than the common button, being about half an inch in width. The curve is made to correspond to the general direction of the urethra. When this contrivance is applied and secured in its place by compressing shot upon the several sutures, as is usually done, the end with the notch projects forwards, and in front of the meatus urinarius, and thus becomes a stationary point upon which the catheter may rest, without in the least interfering with the denuded edges of the cleft. The catheter should always be introduced before the button is secured in its place, and not removed, if it can possibly be avoided, until the cure is complete; nine or ten days generally sufficing. When it chokes up, as sometimes occurs, it can be easily opened by running a small wire through it. When the suture apparatus is removed the catheter should be cleansed, replaced, and worn for three or four days longer. The pressure may now be taken off from the tender cicatrix and the instrument held sufficiently steady by means of a loop attached to a belt, carried around the body of the patient. If this precaution be not observed, and the catheter be allowed to hang down, the rent is almost certain to be reproduced, either partially or completely. I have known the latter to happen two weeks after the cure was thought to be complete, in an instance where the catheter was worn after an operation for vesico-vaginal fistule.

The catheter which I have found to answer best in this operation, is the male elastic, of English manufacture. No. 5 is about the right size. I use it of full length, because it is more comfortable to the patient; and the danger of any urine running up on the outside to the denuded edges, is more effectually guarded against. I have several times performed this operation, and always with the happiest results.

In two of my cases, the rent was associated with double vesico-vaginal fistules; in the other, with a single one. In the first two, I attempted closure of the rent and one fistule at the same operation; in each, the rent closed, but not the fistule. Judging, therefore, from these results, I think it best always to make separate operations of the two forms of injury. This will be my course hereafter, and I think it preferable to close the fistule first, for the reason that the cure of both can be completed sooner, and no danger result to the urethra from the pressure of the catheter, as there would otherwise be if the latter was operated upon first. The after-treatment of the two together cannot be made to harmonize, and here, I am satisfied, lies the cause of my failure to close the fistules in the two cases referred to. The catheter, when constantly worn, as it should be for the rent, is very liable to get closed up, and when it is not promptly attended to, mischief to the fistule is certain to follow from an accumulation of urine in the bladder.

Fourth Class. In calling attention to the management of this class, I shall confine myself to the first and third varieties. The second variety is simple, and requires no modification in the ordinary plan of treatment.

One form of treatment applicable to the varieties referred to, is also simple, and does not require a protracted notice. The only peculiarity about the operation is dependent upon the fact that the anterior border of the fistule is immovably fixed to the pubic bones, and when the edges are pared and the sutures introduced, it remains *in situ*, while the posterior is hauled down, causing sometimes a slight depression of the uterus. When the edges are thus approximated by the adjustment of the sutures, the surface upon which the button is to stand may be found either convex, from previous thickening of the urethra, or concave, from close attachment of the anterior border to the pubic bones. In the former case, a button bent upon its concavity will be required. Fig. 10 is a front, edge, and end view of such a one as I have recently employed. When the surface is concave, the button will require to be bent upon its convexity, as represented in Fig. 11.

Fig. 10.

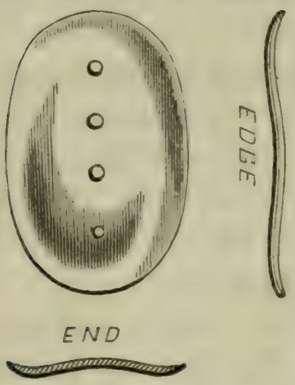
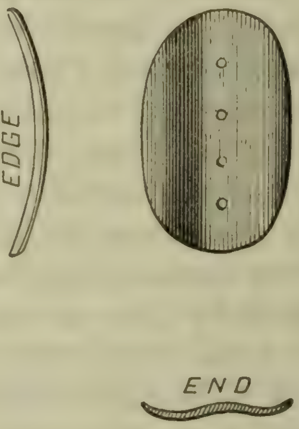


Fig. 11.



There is, however, another form of treatment sometimes applicable to these two varieties, which is a little more difficult to carry out. In addition to the modifications of the button, which are the same, there is a difference in the plan of paring the edges of the fistule and the introduction of the sutures. This is required from an inversion of the anterior border, which feature I pointed out in the description of these varieties. Coaptation of the two edges is here almost impossible, and cannot be effected without detaching the parts from the pubic bones. Rather, therefore, than take this risk, I have devised a plan of operating, to allow the inverted border to remain undisturbed. The procedure is as follows:

The posterior edge, instead of being bevelled, is in this instance to be pared square, or, in other words, perpendicularly, around to each commissure of the fistule. At these two points, the process of denudation, instead of being carried along the anterior edge, is continued parallel to it across the anterior wall of the vagina, and the raw surface made of sufficient width to match the posterior edge. Fig. 3 illustrates a fistule of this character, with its edges pared. The circular lines, as will be seen by reference to the cut, show the situation and extent of the denudation upon the anterior vaginal wall.

The paring being completed, sutures (always equal numbers upon the two sides of the urethra) are next introduced. The peculiarity connected with this step, is that the vaginal mucous membrane is pierced three times by the needle in lodging each suture in its respective place. For example, the needle is entered just in front of the denuded surface, is carried deep into the substance of the vagina, and then brought out just behind the same denuded surface. Next, it is carried across the fistule and through the opposite edge in the usual way; and so on until the requisite number, varying from two to eight, is introduced. This being done, the sutures are to be adjusted in the ordinary manner, which causes the posterior edge to rest upon the anterior vaginal surface. The surface upon which the button is to stand, will, almost if not quite always, be found concave. Therefore, such a shaped button as Fig. 11 illustrates, will be required. The length and extent of the curve will always depend upon the length of the axis of the fistule. Fig. 12 is a view of such a button as was employed in the case represented by Fig. 3. One longer and having a greater curve than this will, I imagine, be rarely if ever called for. The object of the curve in all cases is to bring the two ends of the button within the pubic arch, the only way in which perfect adjustment can be had.

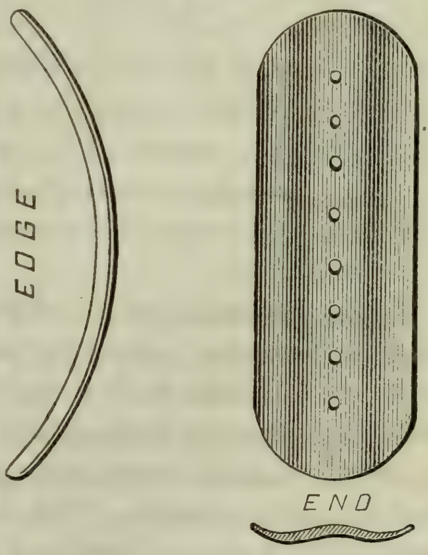


Fig. 12.

Fifth Class.—After the account already given of this class of cases, it would be a waste of time to dwell on the difficulties and dangers which have heretofore been regarded as inseparable from any operative procedures intended for their management. It may not be deemed out of place, however, to refer briefly to the course pursued by some surgeons of good reputation.

Vidal (de Cassis), has declared that fistules, even of the *bas-fond* of the bladder, due to a loss of substance, are entirely beyond the reach of art, so far as their closure is concerned. He would, of course, in this, as he did in that class of cases, advise obliteration of the vagina. Now that this procedure is ever justifiable, under any circumstances, my observation and experience has yet to prove. My present conviction is, that it is rarely if ever called for. Jobert (de Lamballe), however, be it said to the honor of French surgery, has done something more. He has not only devised a plan of treatment to reach this extreme and much-to-be-lamented class of sufferers, but has actually demonstrated its utility. To this surgeon, so distinguished for his skilful exploits in the field of operative surgery, is therefore due the credit of having been the first, indeed, I may say the only one, either in this country or Europe, to accomplish anything in the treatment of the different varieties of fistule complicating the cervix uteri. His method of operating is denominated *Cystoplasty*. To this procedure, I wish now to invite attention.

The operation of cystoplasty, though ingenious, and doubtless one of the greatest triumphs of modern surgery, appears to me to be environed by some objections. These I propose to examine here, with the view of ascertaining whether the operation can ever be brought into general use or not. In attempting this, however, I do not wish it to be understood that it is my purpose to detract from the claims of its distinguished author. Far be this from me. I am, in common with the whole profession, willing to accord to him the praise he so justly deserves for his wonderful success in this hitherto unexplored branch of obstetrical surgery.

What, then, is cystoplasty? What its advantages? What the amount of skill required to perform it? What the dangers attending it? In short, what are the inducements it holds out for general adoption?

Cystoplasty, in the most extended acceptation of the term, means, I believe, the process of closing any kind of fistulous opening into the bladder. Jobert, however, restricts it to the procedure, adopted by himself, for closing openings in the vesico-vaginal septum, occasioned by extensive loss of substance. The steps of the procedure, according to my understanding of it, are as follows:

The cervix uteri is first seized with a pair of Museaux's forceps and drawn down to the vulva. Next, the vagina is severed from its anterior attachment, which brings to view the point at which the posterior wall of the bladder is connected to the cervix by areolar tissue. From this point back to the reflection of the peritoneum, a clean dissection of the vesical wall from the cervix is made. This being done, the borders of the fistule are freshened, the sutures introduced, and approximation then effected. The object of the above dissection, it will be understood, is simply to procure the requisite amount of relaxation of the posterior wall of the bladder to admit of its being drawn down so as to close the fistulous opening. In this way displacement of the uterus is said to be avoided, and consequently dragging upon the sutures prevented.

Admitting, now, the attainment of all that is here proposed, and the result to be generally satisfactory, I ask, are not objections to the procedure apparent to every one who is at all familiar with the anatomical relations of the parts? The objections which I find are:

1st. The operation has neither simplicity nor certainty to recommend it.

2d. It is unavoidably tedious and painful.

3d. A greater amount of skill is required for the necessary dissections, than falls to the lot of many who may be called upon to perform the operation.

4th. The peritoneum is liable to be injured, against which risk no amount of anatomical knowledge, skill, or dexterity in the use of instruments is a sure guarantee.

The last mentioned, I regard as the greatest objection to this mode of operating. That Jobert himself has lost patients from the inevitable result, peritonitis, there can be no doubt. Only a few months ago I saw in a letter from a Paris correspondent of one of our medical journals, that this surgeon had a short time before lost a patient from this cause after one of his operations.

That a procedure, therefore, if not more successful, at least less liable to the above objections, is a desideratum, all must admit.

My experience in the management of the unfortunate class of cases of which we are now speaking, is comparatively limited. Still, sufficient, I trust, has been acquired to justify me in presenting my views here in a matured form.

The procedure which I have adopted, and propose here to give to the profession, will, I think, be found simple, easy to perform, and last, though not least, of all other considerations, almost unattended with danger. I say it is almost unattended with danger, for I have never seen, excepting in one or two instances, the slightest accident result from my operations, which now amount to seven.

Somewhat more than two years ago, I met with my first case of vesico-vaginal fistule complicated with a rent in the anterior lip of the cervix uteri. Then it was that I first demonstrated the practicability and safety of paring the cervix, and lodging sutures in its substance. An account of this case is to be found in the Southern Medical and Surgical Journal for August, 1855.

The importance of this method of treatment, and its general applicability, I did not then fully appreciate. Indeed, I was not aware at the time, that the same thing had not been practised by other operators, and thought but little of it. A further examination, however, satisfied me that the plan was new; or at least I could find no mention of it in a diligent search through all the writings appertaining to the subject that I could lay my hands upon. Since that time, Dr. J. M. Sims,* of the Women's Hospital, New York, has adopted the method, and if I am correctly informed, others have done the same.

The value of this discovery I now consider incalculable, and, in connection with another principle of my procedure, to which I shall now call attention, enables me to cure cases with ease to myself and safety to patients, which have heretofore been abandoned entirely, or reached only by the dangerous procedure of Jobert. The principle to which I have just alluded, is the depression of the uterus for the purpose of closing the fistulous opening however large it may be. This point, although suggested by Velpeau, has never before, that I am aware of, become established as a practice by any one, and, as would appear from the language of that distinguished surgeon, he himself attached very little importance to it. In speaking of it, he says: "Another process which might be borrowed from anaplasty, when the fistule is very high up, would consist in actively cauterizing its vaginal region, then in hooking the neck of the uterus with an érigne or a noose of thread, in order to pull it down, and cause it to slide, as a drawer, below the vesical opening. But I repeat, all these suggestions want a foundation to rest upon; none of them can yet adduce any success in their favor."†

The idea contained in the above was certainly a good one, but unfortunately it was never carried out in practice, nor could it have been done successfully without a knowledge of paring and suturizing the cervix.

The principle then upon which my procedure is based, is the subserviency of the uterus for closing the fistulous opening, and the lodgment of sutures in the cervix uteri, as in any part of the vesico-vaginal septum.

If there is no danger in paring the cervix and carrying sutures through it, the only other objections which could be urged against the procedure are displacement of the uterus, and a supposed dragging upon the sutures. As to the displacement, I myself attach no importance to it. I have never yet seen any ill consequences from it, save a little soreness across the lower part of the abdomen for a few days after the operation. In a very short time, the organ, owing to the yielding nature of the vagina, ascends almost, if not entirely, to its normal position in the pelvis. In one case upon which I operated, the uterus was dragged down nearly an inch and a half, and secured to the inferior border of the fistule. The operation was entirely successful, and now, if one should make an examination of the parts without a knowledge of what had been done, he would scarcely be able to detect any alteration save a less degree of prominence of the cervix. This patient now enjoys perfect health, menstruates regularly, and is generally able to retain her urine all night.

---

* MS. Letter to the author.

† Op. cit. vol. i, 627.

As to the dragging upon the sutures, I fear nothing from this. I have never had a suture to cut out, and I am satisfied that, owing to the dense and firm structure of the cervix, this accident is much less apt to occur here than in the vesico-vaginal septum.

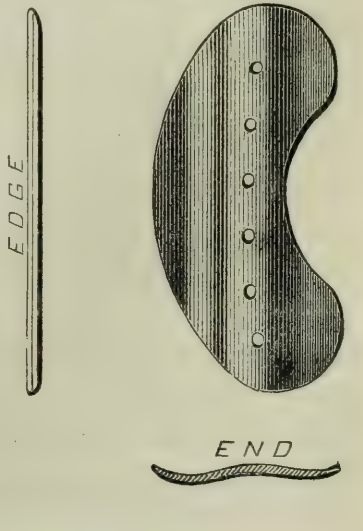
I beg leave now to call attention to the modifications of my plan of treatment applicable to the several varieties constituting this class.

Fig. 4 is an illustration of the first variety. A reference to the cut again, will prepare the mind for a proper understanding of the adjustment of the suture apparatus. The edges of the fistule, it will be seen, although I did not before call attention to the fact, are represented as being pared; and in paring the cervix, I may observe here, that it is proper always to leave the denuded surface perpendicular, not oblique or bevelled, as is required generally for the vesico-vaginal septum. This is necessary to insure a good coaptation with the opposite edge.

The paring being completed, the next step consists in the introduction of the sutures, of which two are usually required for the cervix; and these two are of the greatest importance. The number of the others will, of course, depend upon the size of the fistule; and in their introduction, the ordinary plan is to be pursued; but it is essential that those in the cervix should be attended to first, then the others upon either side. In this variety of fistule, both edges being movable, meet, when approximated, upon half-way ground.

Fig. 13 illustrates the shape of the button required in this variety, and is a representation of the one used in the case referred to. The notch in the upper edge is for the accommodation of the anterior lip of the cervix. There is nothing peculiar in the method of applying the button and securing it in its place, nor in the after-treatment.

Fig. 13.



Of the second variety, it will be recollected that Fig. 5 is an illustration. The process of paring here is the same as in the preceding variety; but the two succeeding stages differ in the introduction and adjustment of the sutures;—and why? Because the anterior border of the fistule is immovably fixed to the pubic arch, which prevents their mutual approximation. In this state of things, we may avail ourselves of that principle of independent action ascribed to the sutures required to be entered in this way. Instead of being parallel to each other, they are made to represent parts of the radii of a circle, whose centre is fixed above the uterine orifice, to a greater or less distance, according to the size of the fistulous opening. The sutures all being introduced, they are next adjusted, as directed in the preceding variety, which brings the parts together as shown in Fig. 14, illustrating this stage of the operation in the case above referred to. The dotted lines above show the extent to which the uterus was hauled down to close the opening.

Fig. 14.

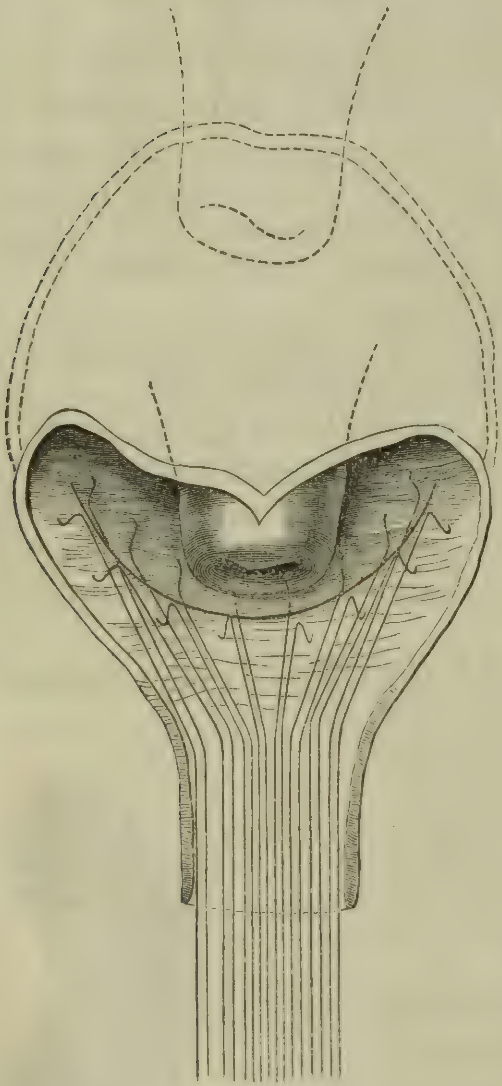
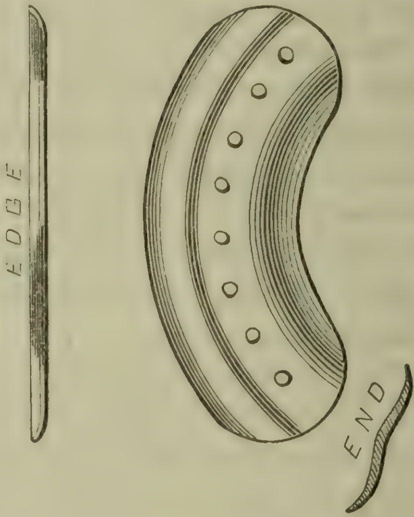


Fig. 15.

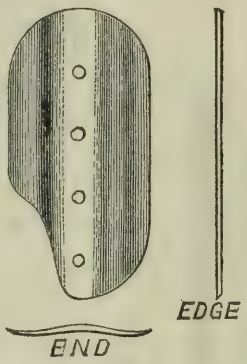


The next cut, Fig. 15, is a front, edge, and end view of such a button as was required for the parts as above arranged, and is such as will generally be found indicated in this variety.

Of the third variety, a reference to Fig. 6 will indicate what is to be done. Here we have a simple longitudinal slit complicated with a rent in the centre of the anterior lip of the cervix uteri. The steps are, first, to pare the edges of the fistule in the ordinary way, and then the two sides of the cleft; next introduce a sufficient number of sutures to close, first, the fistule, and then the cervix; only one or two being generally required for the latter. The sutures for the cervix, in this instance, are introduced transversely, instead of antero-posteriorly as in the preceding varieties. The whole being adjusted, the sides of both fistule and cleft are thus brought in apposition.

Nothing more now is required but the application of a button, whose shape must be fashioned to suit the parts upon which it is to stand.

Fig. 16.



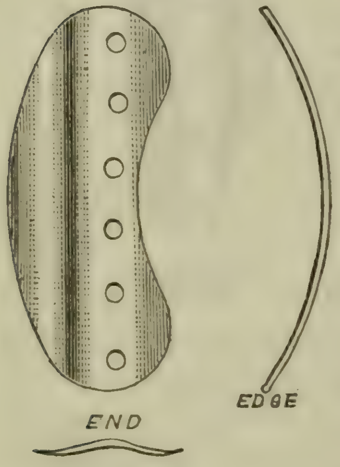
The oblique form of the fistule, sometimes, complicating the lip of the cervix at one of its corners, had better be operated upon alone; afterwards the rent. Such a button as represented at Fig. 16, will be found suited for fistules of this description. The notch at the corner is for the accommodation of the side of the cervix.

Fourth variety.—Fig. 7 is a view of this variety. Here the longitudinal or lower portion of the fistule should be closed first; the upper portion, at a subsequent operation. A common-shaped button will generally be found to answer, no modification of any importance being necessary.

In closing the upper portion of the fistule, however, a little more trouble will be experienced. The loss of a portion of the cervix, and the anteversion which sometimes attends it, are both difficulties to be encountered. If the latter condition does not exist, the same treatment applicable to the first variety will answer, the only difference being that the button will not require to be so long. If anteversion of the cervix, however, does exist, then the process of paring and introducing the sutures must be varied; that is, if it is desired to exclude the uterine orifice from the cavity of the bladder, which should always be done if possible. In this instance, the paring is done on the anterior edge of the remaining portion of the cervix, and, as a matter of course, involves a portion of the vesical mucous membrane; this is necessary to obtain a sufficiently broad surface anterior to the os uteri to insure agglutination of the two edges when brought together. Next, the sutures for the cervix should be entered far in upon its vesical side, and brought out from behind forwards, on a line that will allow of coaptation of the denuded surfaces without interfering with the uterine orifice. Traction now made upon these sutures, while it carries the anterior edge up, at the same time brings the cervix downwards and backwards towards its normal situation, and thereby forces the os uteri to a position posterior to the line of approximation. In this way the catamenia will be allowed to take the natural outlet instead of through the bladder, as would necessarily be the case were the fistule closed with the cervix *in situ.* A button of the shape last referred to, will be found to answer here also.

The remaining form of fistule belonging to this variety is seen at Fig. 8. Here, although the limits of the cervix are not well defined, still, the remnant of it forms the posterior border of the fistule, and must be pared along with the other parts of the fistulous border. This and the introduction of the sutures are done very much in the same way pointed out for cases belonging to the first variety. The principal difference being that the stump, so to speak, of the cervix is broader, and consequently will hold a greater number of sutures. Owing to this difference, the notch in the upper edge of the button will also require to be proportionately larger. The accompanying cut, Fig. 17, is a view of such a one as I have used. In addition to the notch being a little larger, the button is slightly bent upon its concavity, which peculiarity is required for easy adjustment. The edge view indicates the extent of the latter.

Fig. 17.



ART. II.—*Experiments upon Digestion.* By FRANCIS G. SMITH, M.D., Professor of Institutes of Medicine in the Medical Department of Pennsylvania College.

IN the Medical Examiner for July and September, 1856, the writer published some experiments performed upon Alexis St. Martin, with the view of determining the nature of the acid of the gastric juice, and the influence of the latter fluid upon various alimentary substances. The conclusions arrived at were, that the acid reaction is due to the presence of *lactic acid;* that nitrogenized food is converted into albuminose; that fatty articles undergo no change beyond minute division; that *amylaceous,* or *starchy materials* (in man) *are converted into glucose* or *grape sugar.*

To the last of these conclusions the objection has been urged, that the glucose manifested in the products of digestion *"existed beforehand in the bread used as food."**

---

* Prof. J. C. Dalton, in Amer. Jour. of Med. Sci., October, 1856.

To those who did not witness the experiments, such an objection may appear well grounded, particularly as it is well known that glucose is formed in the process of panification; but with those who were present, and who saw the evidences of a much larger quantity of glucose in the fluid of digestion than they ever met with in the examination of bread alone, such objections have less weight.

Granting, however, the justice of the criticism, and feeling great respect for the source from whence it came, but at the same time contending for truth alone, the writer has, during the past month, performed a corroborative experiment, with the assistance of his distinguished friend, Dr. E. Brown-Sequard, who kindly *lent himself* for the purpose, in place of St. Martin, unfortunately no longer within reach.

Dr. Brown-Sequard has, as Montegre had, the faculty of vomiting at will, and thus exhibiting the condition of alimentary articles at any stage of digestion. With the view of determining the action of gastric juice upon amylaceous food, he lent his valuable aid and experimental tact in the following researches.

After a night's fasting, the stomach was thoroughly cleansed by copious draughts of water, and a portion of plain arrowroot, carefully washed before boiling, and subsequently tested for glucose (of which not a trace was visible), was administered. After about thirty minutes had elapsed, the contents of the stomach were ejected by a simple spasmodic contraction, and without nausea. The fluid was distinctly acid to litmus, and gave a copious precipitate of red suboxide of copper, with Trommer's test.

The process was continued with subsequent ejections for nearly an hour, with the same result on each repetition, with the exception that the quantity of glucose detected was, if anything, increased. The fluid was not tested for starch or dextrine.

A portion of the same arrowroot was treated with saliva, and allowed to stand about the same length of time that the previous portions had remained in the stomach. Trommer's test revealed glucose, but by no means in so large a quantity as in the previous experiments.

It may be urged by some that these results are not reliable, inasmuch as the process of digestion was not healthily performed. To this it is answered, that there was no evidence of disorder in the function other than the spasmodic contraction alluded to, and that distinguished physiologists have placed implicit confidence in the experiments of Montegre* and others, of a similar character. Taken in connection with the experiments upon St. Martin, therefore, this one seems to bear out the conclusion then arrived at, that "starchy materials are digested in the human stomach; that human gastric juice does not prevent the conversion of starch into grape sugar; and that this conversion may take place in the stomach independently of the action of saliva." In regard to the last point, it may be observed that the fluid character of the food obviated the necessity for insalivation, as Bernard's experiments have shown, and that the glycogenic change, therefore, could have been but little, if at all, influenced by saliva, the effects of which are declared by Bernard to be nullified by the acid reaction of the gastric juice.

---

* Adelon and Chaussier, art. "Digestion," in Dict. des Sciences Méd., t. ix, pp. 422–3; Stevens, De Alimentorum Concoctione; Spallanzani, Exper. sur la Digestion.

ART. III.—*Puerperal Fever and Erysipelas.* By J. LEVERGOOD, M.D., Wrightsville, Pa.

Puerperal fever is a disease peculiarly characterized by its insidious mode of attack, the rapidity with which it proves fatal, and the difficulty experienced in compelling it to succumb to treatment. In these respects the whole category of diseases to which the parturient female is liable, may be searched in vain to find its counterpart. In regard to its nature, the most discordant and antagonistic views have been held, and, consequently, the treatment has been as diversified as the opinions entertained of its pathological character. This malady made its appearance not long since in the practice of a physician of this place, and as its commencement, progress, and termination, clearly indicated its origin, I will, briefly, with the kind concurrence of the physician to whom allusion is made, relate the circumstance as it occurred.

In the month of March, 1853, Dr. B. C. Lloyd, while professionally attending, in this place, for phlegmonous erysipelas, involving the entire left arm, a man whose system was very much debilitated by the excessive use of ardent spirits, was summoned to Mrs. D., in labor with her third child. This lady lived more than a mile from town, in what is known as the "York Valley," renowned for its beautiful farms, fertile soil, and wealthy inhabitants, and proverbial for its healthfulness. At the time his attendance upon her began, there was no prevailing epidemic disease of any kind whatever, and Mrs. D. was enjoying perfect health. An examination showed the vertex to be the presenting part, and her labor terminated as easily and speedily as usual in such cases. On the third day, puerperal fever symptoms, one of the most prominent of which was abdominal tympanitis, developed themselves, and two days afterwards she expired.

The second case was that of Mrs. S. This was her sixth accouchement, and, like all the previous ones, it ended as favorably as an entirely natural labor in a female who, at the time of and previous to her confinement, was in the enjoyment of the most robust health, could be expected to end. She, also, lived in the "Valley," some two miles from town, and about one mile from the residence of Mrs. D. Symptoms of puerperal fever manifested themselves on the third day subsequent to delivery, and, notwithstanding the prompt assistance of a physician from York, all efforts to save her life proved unavailing.

The third case was that of Mrs. N., also the wife of a Valley farmer, and living fully five miles from town. This was not her first parturition, but the number of children she has had the writer is not aware of. The whole course of the labor differed in no material respect, except in its being a twin case, from those I have mentioned. She, also, was attacked by the disease, and, although, as in the previous cases, active and decided antiphlogistic treatment was promptly employed, the case had a fatal termination.

Previous to his attendance upon the case of phlegmonous erysipelas, there had been in the charge of Dr. Lloyd, both in town and country, a number of midwifery cases, and, in no single instance, did peritonitis make its appearance; but from the time he took charge of the case mentioned, until he relinquished it, embracing a period of three weeks, he lost every parturient female, viz., the three I have mentioned, to whom he was called. The writer was engaged in obstetrical practice at the same time, some cases of which were not very remote from those of Dr. Lloyd, but in none did the disease make its appearance. It therefore appearing very evident that the case of phlegmonous erysipelas was the source from which emanated the *materies morbi* that was proving so disastrous to the childbed women under his care, and that he was the medium through which it was disseminated, the doctor at once relinquished any further connection with the case. The writer being then solicited to take charge of the man, positively declined to do so, feeling morally certain that his patients would share the same fate as those of his friend; the service of a physician from a neighboring village upon the opposite side of the river were secured, and from that time, no other cases of the disease appeared.

Post hoc, ergo propter hoc, is, we are all aware, a very fallacious and illogical method of reasoning, but the rise, progress, and termination of this disease, were attended by circumstances too palpable to admit of explanation upon the supposition of their being merely a succession of coincidences. The intimate pathological connection existing between puerperal fever and erysipelas, and the possession by these diseases of the power of mutually reproducing each other, are questions which frequent observation has so abundantly confirmed, as to place them without the bounds of reasonable conjecture. One of the first of living accoucheurs, says, "that when the fingers of medical men were impregnated with the morbid secretions thrown out in erysipelatous inflammation, the inoculation of these matters into the genital canals of parturient females produced puerperal fever in them, in the same way as the inoculation of the secretions from patients who had died of puerperal fever itself;"* and were it necessary to amplify quotations to the same effect, it might be done to an almost unlimited extent.

ART. IV.—*Treatment of Pneumonia.* By C. J. POPE, M.D., of Eufaula, Alabama.

IN view of the wide-spread prevalence of pneumonia in this section of country during the past winter and spring, the probabilities of its recurrence under similar circumstances, and the great fatality which has generally marked its progress, I am induced to state to the profession the mode by which I have so far this season successfully treated every case that has fallen under my care. The number of cases thus treated, was not less than forty, which in a community such as that in which I practise, is an unusually large experience for one individual during a single season. Of the causes which probably gave rise to this epidemic, unprecedented in this neighborhood, I can refer only to the intensely cold and protracted winter.

Treatment—When the onset of the disease is so violent that the system reacted tardily, a circumstance which I have several times observed, I administered brandy with a more unsparing hand than I ever dared to do in any previous season, and have often been obliged to continue its use for several hours. And in such cases, I may here remark—cases in which the vital energies are so overpowered by the disease that reaction was slow in being established—I have never found it necessary to take blood. When, however, reaction is prompt, whether unaided or otherwise, I invariably bled once, and once only, but generally freely. Bleeding having been premised, I put the patient upon the use of opium and calomel, in doses of from one to one and a half grains of the former, according to the intensity of the pain and severity of the cough, and from two to four grains of the latter, to be taken every three hours until three or four were taken. Waiting then from one to three hours, I administered a dose of castor oil, which having produced the desired effect, I returned to the use of the opium, giving it in the same doses and at the same intervals as before, but combined now with the tincture of veratrum viride in doses of about six drops. This I continued until there was a marked impression on the circulation, when I diminished the proportion of the veratrum, but not that of the opium, until at least twenty-four hours had elapsed since the commencement of its use. If at the end of that time the disease became evidently arrested, which was generally the case, I lessened the dose of the opium, or what was decidedly better, gave it at longer intervals. I found that in thirty-six or forty-eight hours from the time the opium and veratrum viride were first given, the case was generally cured, so far as the inflammatory action was concerned, and farther treatment unnecessary.

---

* Simpson's Obstetric Memoirs, vol. ii, p. 43.

When called to a case which has not received the prompt and efficient treatment just mentioned, I have often found it necessary to cup and blister, but as a general rule this practice may be dispensed with, and hot poultices to the chest substituted in their stead.

I am aware that the administration of opium in large doses, in the commencement of an inflammatory disease, is at variance with the generally received notion of the medical profession with regard to this medicine, nor am I prepared to deny with positiveness the soundness of this opinion, when the opium is given alone; but in conjunction with veratrum viride, its action is as certainly sedative and diaphoretic as it is anodyne, and, therefore, when thus given, it is unquestionably admissible. I regard the conjoined action of these two agents as the *desideratum* in the treatment of pneumonia. For the purpose of encouraging the perspiration, which is induced by these remedies, I administer the tea of the asclepias tuberosa, and consider it a valuable adjuvant.

I have just stated that I am not prepared to assert with positiveness that opium does not act as a stimulant in the early stages of inflammatory diseases, and that it is on that account contraindicated, but I confess that my decided convictions are to the contrary, at least where it is given in pneumonia, where the pain is intense, and cough excessive, provided the doses are sufficiently large to exert a marked control over the pain. This being accomplished, the circulation will also be controlled, and the determination to the point of excitement in the lungs will be diverted towards the surface, and in a large majority of cases, diaphoresis will be the result.

I have not administered the opium alone, under such circumstances, for the reason that I have always at hand a remedy which, when given in conjunction with it, effects all that I could ask in controlling this formidable disease, and I have not felt warranted in departing from a course which was sure of success, for one around which hung at least a shadow of doubt. I repeat, that if opium, administered by itself in decided doses, will, in this disease, and under the circumstances mentioned above, accelerate the circulation and do mischief, if it is administered in conjunction with the veratrum viride, the latter will obtain the mastery, and their conjoined action will be sedative and diaphoretic in a marked degree, and therefore salutary beyond all doubt. Under this plan of treatment, I regard the cure as certain and rapid, and failure next to impossible; and if success were not complete, I should look for the cause of failure not in the remedies, but in the mode of administering them.

ART. V.—*Case of Cirrhosis of the Liver, and Bronzed Skin.* By CHARLES FRICKE, M.D., of Baltimore.

MICHAEL BATEMAN, white, born in Ireland, æt. 25, five feet five inches high, moderately fleshy, and whose previous occupation was a laborer in one of the lower counties of the State, was admitted to the prison in April, 1856. He admitted that he drank occasionally, but denied being intemperate, and his health, excepting occasional attacks of malarious fever, had been good. Nothing particular was remarked about his appearance, but his hands. These were fully one-third larger than usual, evidently from hypertrophy of the skin, which, along the fingers, was disposed somewhat in folds, and which appearance I concluded to be due to elephantiasis. He was put to medium work, and attracted no attention from me, until the first of September, following. I found then that he had failed in strength; that he complained of nausea, and distension about the epigastric region, the latter due to gas; more or less headache and constipation, but no fever. A few days' rest served in a measure to relieve this condition, and he returned to work. At the end of the month he again entered the hospital with the same symptoms, but accompanied with jaundice and a sense of weight rather than pain over the liver. He was ordered taraxicum and blue mass, and in a few days was again relieved. This recurred from time to time until the middle of December, when he became a permanent inmate of the hospital. The jaundice was now universal, pulse 80, and of ordinary volume; no perceptible enlargement of liver; lungs and heart sound; digestive function good; emaciation moderate; and urine high-colored. His principal complaint was of lassitude and an uneasy sensation in the head. As the case progressed, the principal phenomena exhibited were dropsy, hemorrhage, black urine, and bronzed skin. The first of these, dropsy, appeared in the form of ascites, about the middle of February, and had attained a very considerable size at the time of his death, but the abdominal veins were never much enlarged; and during the last few weeks, his legs became œdematous. The first hemorrhage occurred on the 14th of April, from the intestinal canal, as well as from the lungs and stomach. The whole amounted to nearly a quart. These recurred three or four times during the succeeding two weeks. I first remarked the black urine in March. It continued till his death. The average amount was 30oz., and sp. gr. 1·020. By direct light this fluid resembled bile, but by transmitted light, was of a deep purple hue. It contained no very great excess of bile, and the change was found to be due to an enormous amount of the coloring matter, termed by Heller, *urrhodin*. The fecal discharges for the last six months were hard, rounded, and white balls, somewhat resembling that of dogs.

The bronzed skin, the most interesting phenomenon, and the one to which I wish to direct attention more particularly, was first remarked in January. At the commencement it was not well defined, nor more decided than is often observed in cases of cirrhosed liver, but after a time, the tinge became so deep as to attract decided attention. It was limited to the forehead, face, and neck, and almost as deep in hue, as is formed in the livers of remittent fever patients. One fact is worthy of notice. The demarcation between this color and that of the rest of the body was not clearly defined, but they merged into each other by degrees. He died April, 29, 1857, after a convulsion.

The autopsy was made by Dr. Johnston and myself, seven hours after death. Bronze hue not so well marked, jaundice universal and of a deep lemon tint, emaciation moderate, and legs œdematous. Head and chest not examined. The abdominal cavity contained about one gallon of serous fluid, and the intestinal canal was filled with dark liquid blood. Kidneys congested and somewhat enlarged, otherwise healthy. Suprarenal capsules of normal size, hue, and consistence; no alteration whatever observable. The liver, one-third smaller than usual, was of a bronze hue externally. Everywhere its surface was irregular, and in some places nodulated, particularly the left lobe. Internally the fibrous texture was abnormally developed, and the outline of the lobules clearly defined. The cut surface, but not the exterior of the organ, was uniformly of a light apple or pea-green color. Under the microscope, nothing was perceptible but the hypertrophied fibrous tissue and the cells filled with the same coloring matter. The gall-bladder contained about ℥ss of light green bile. Although various shades are spoken of by different pathologists, I can find in no work this peculiar color of the liver alluded to.

ART. VI.—*Case of Colica Pictonum produced by the White Lead Treatment of a severe Scald.* By G. A. KUNKLER, M.D., of Madison, Ia

THE following case may not prove without interest, in showing how readily the toxic effects of lead may manifest themselves in certain persons, after its external application to a denuded surface.

Kate B., an Irish servant girl, scalded her arm by a kettle of boiling water falling upon it during the latter part of last December. The injury extended from the elbow over the whole forearm and hand, and was followed by extensive vesication. After the contents of the vesicles were evacuated, by puncturing them with a needle, the common white paint, of the consistency of cream, was applied freely with a camel's hair brush, the parts covered with cotton, and a roller lightly applied over the whole. The accident occurred early in the morning; and on the following day, the dressings having become dry, were renewed. On the evening of the third day, I saw the patient again, and then found her laboring under unmistakable symptoms of *colica saturnina*, such as acute abdominal pain, retraction of the umbilicus, constipation, and *slight discoloration of the gums.* The burn was doing well; under the use of opium, purgatives, &c., she was rapidly relieved. The use of the paint was discontinued, and the linseed oil and lime water mixture substituted, from the use of which the burn got well. During the past five years, I have used the white paint in a number of cases of burns and scalds of every imaginable description, without ever noticing any injurious result; my attention having been first called to it by a paper of Professor Gross, in vol. iii of the Transactions of the Am. Med. Assoc. In one case, in particular, where both the lower extremities of a child, five years of age, were badly scalded from the hips down to the feet, the white paint was applied several times over the whole surface, without any injurious result whatever; the convalescence being extraordinarily rapid.

In the first-mentioned case, I was particular to investigate whether lead in any shape could have entered the system through any other channel; but was soon satisfied that this was altogether improbable, and I am, therefore, firmly convinced that the colic was due entirely to the absorption of the lead from the burnt surface. [This is the only well-authenticated case of colicky symptoms resulting from the local use of white lead in burns and scalds that we remember to have ever heard of, notwithstanding its very general employment. The occurrence of such a case is therefore to be regarded only as a great rarity, and should not be urged as an objection to the remedy. When effects of this sort occur, they may be promptly relieved by the internal administration of aromatic sulphuric acid in repeated doses.—ED.]

ART. VII.—*Two rare Surgical Cases.* By WM. M. BOLING, M.D., of Montgomery, Alabama.

1. *Large and repeated Hemorrhages from the socket of a tooth, dependent upon Necrosis of the Jaw-bone.*—On the 22d of May, 1851, I visited a man, about 28 years old, living some fifteen miles from Montgomery, and received from Dr. Wilson, his attending physician, the following history of his case. About the 1st of March, preceding my visit, the patient had an attack of erysipelas of the right side of the face. Very great swelling

of the part took place, into which, in the course of treatment, an incision was made just below the eye, with the effect of discharging some matter. On the eighteenth of the month, he had a slight hemorrhage from the opening made with the lancet, from the right nostril, and also from a small abscess that had formed near the root of the second molar tooth. On the 21st, he had another slight hemorrhage from the same parts, a more considerable one on the 24th, and also on the 27th. About the 1st of April, the parts continuing very much swollen and extremely painful, the first molar tooth and a root of the adjoining bicuspid, were extracted, from the sockets of which a small quantity of offensive matter escaped. On the 13th of April, he had a profuse hemorrhage, estimated at about two quarts, the loss of which produced syncope, principally from the socket of the extracted tooth; on the 25th, the same again, resulting in great prostration and syncope, and on the 21st of May it was again repeated, to the same extent, and with the same result. The blood was apparently arterial. In each instance the discharge ceased seemingly in consequence of the prostration, and was renewed, apparently, whenever, from improvement in the quality and restoration of the quantity of the blood, the system had, to some extent, recuperated.

When I saw the patient on the 22d, the hemorrhage had ceased, and a reaction, more irritative than febrile, had taken place. There was some heat of the surface more than natural; the pulse was 100, quick and jerking; the lips were white and bloodless; there was a tendency to œdema, and the prostration was extreme; though, prior to the attack, the patient was quite a strong and robust man.

The side of the face, more especially over the maxillary sinus, was swollen and prominent, and within the mouth, between the cheek and the alveolar margin, there was a bony projection, as if the lower anterior part of the wall of the antrum was pressed downward and forward by a body filling the cavity.

Though the patient seemed but little able to survive the loss of blood from many more such attacks, and as it was not probable, considering his present prostrate condition, that another hemorrhage would occur for some time, it was decided, in view of the uncertainty as to the real character of the case, not to interfere actively for the present. In consideration of the extreme danger to which the patient was reduced by the recurring hemorrhages, and more especially as it seemed not improbable that these proceeded from a vascular growth filling the antrum, the propriety of applying a ligature to the carotid was taken under consideration; and it was decided to be prepared at least for such a measure, in any operative course adopted, should emergency require it.

On the 30th of May, as it was apprehended that a return of the hemorrhage might soon take place, I visited the patient again. The parts seemed in much the same condition. A probe inserted into the opening on the cheek made with the lancet, readily passed under the integuments as far as the outer or inner canthus, and an inch or more backward along the floor of the orbit. On pressing the finger into the orifice from which the tooth had been extracted, and from which the great discharges of blood had proceeded, a projecting point or margin of apparently denuded bone could be felt. A probe could be passed readily into the antrum. I introduced a bistoury into the opening, and divided the substance of the gum for about three-eighths of an inch, in the two directions, backwards and forwards, and then, with a pair of forceps introduced through the opening, succeeded in removing some five or six pieces of exfoliated bone, differing in size from that of the little finger nail, to nearly that of a quarter of a dollar; seemingly the internal bony parietes of the antrum. After the operation, the end of the forefinger could be readily passed into this cavity. No hemorrhage of any consequence occurred during the operation.

I have not seen the patient since the slight operation by which he was apparently relieved from such extreme danger, but have heard from him within the past year. There was no return of hemorrhage. The swelling of the face subsided in a short time, and the recovery was prompt and permanent.

2. *Perforation of the Popliteal Artery and Vein by a Spiculated Exostosis of the Femur; Large Extravasation of Blood mixed with Pus. Amputation. Recovery.* On the 1st of August 1849, I visited a young man, living in an adjoining county and under the professional care of Doctors Smith, Hillhouse, and Jones. He was about sixteen years old, and before the attack for which I visited him, was well grown, strong, athletic, and of very active habits. Some five or six months before the date of my visit, he felt pain about the knee and popliteal region, slight at first, but rapidly increasing in severity. At first, the swelling was slight, but, after some weeks, it increased more rapidly, more especially in, and apparently starting from, the popliteal space. For the last six weeks the patient has been confined all the time to bed. His suffering is great; he is very much emaciated and his pulse is quick (120); and small. At no time has the swelling been circumscribed, presenting the defined limits of a tumor, but rather diffused. It involves the entire circumference of the leg, which at the largest part, just above the knee, measures 23 inches—more than twice as much as the sound leg at the corresponding point. The enlargement extends from just below the knee towards Poupart's ligament, 14 inches. It has rather a doughy feel, but, at times, is more elastic. There is no pulsation, but an obscure, peculiar, muffled, *bruit de soufflet,* more distinct at the most prominent point than

at the margin, over the femoral artery. There is no pulsation in the anterior tibial artery where it passes over the dorsum of the foot. A peculiarity about the tumor is that, at times it suddenly enlarges, increasing greatly in size in a few minutes, becoming tense and much more painful. This increase in size, though coming on suddenly, very gradually subsides, to be renewed at irregular and uncertain periods. On inserting an exploring needle, a mixture of pus and grumous blood was discovered, and, on enlarging the opening with a lancet (we had previously decided on amputation), the same matter continued to escape slowly for about a minute; then a small coagulum was thrown out with force, followed by a stream, slightly *per saltum,* of mixed arterial and venous blood. Though the orifice was promptly closed, the effect of even this slight loss of blood was manifest upon the pulse.

We were at a loss in regard to the diagnosis. Some of the characters of aneurism were present; but it was surely not an ordinary aneurism. Whatever the real nature of the case, however, the removal of the limb seemed to offer the only chance to the patient of recovery. Already reduced as he was to the verge of the grave, it seemed scarcely probable, even supposing the case to be one of ordinary aneurism, but of unusual size and attended with unusual local suffering, that merely tying the artery would cause an abatement of the irritation, sufficient and early enough to preserve life. Accordingly, after having the patient placed under the influence of chloroform, I amputated the limb near the hip joint. Though the loss of blood was very slight, the patient, already so much prostrated, sunk into a state of extreme collapse, through which he was sustained, and from which he was recovered in the course of the night, by the persevering administration of stimulants. It was the opinion of the gentlemen named, who were present, and I thought myself, that the patient could not have survived the operation but for the sustaining influence of the chloroform and its prevention of nervous shock. He was not aware till the stump was dressed, that the leg had been amputated.

The femur was found rough, and very slightly enlarged just above its lower articulating surface; and extending backwards from between the condyles, was a projecting conical point of bone about half an inch in length, by which both the popliteal artery and vein were perforated. There was, of course, no regular aneurismal sac, but the blood had been forced, as it were, in every direction and into every possible point, separating the muscles and filling the interstices between them. It was estimated that the coagula, could all have been saved, would have weighed ten pounds. After the dissection, a quantity weighing seven pounds was collected. The patient's recovery was speedy and uninterrupted.

ART. VIII.—*The American System of Medical Education.**

EXCELLENCE of plan and faultiness of detail are by no means incompatible. Some bridges are built, from the necessity of the case, of perishable material; yet so cunningly are they fitted together—without mortice or tenon—that any decayed piece may be taken out and replaced by something better. Like such a bridge, is the American System of Medical Teaching. It is a good bridge, it carries us safe over, but we must remove from it the rotten timbers, ere they give way and crush us in the fall.

It requires no uncommon shrewdness to point out the shaky supports in our construction; to provide proper substitutes may call for a wiser forethought and more careful deliberation, as to how and when our reform shall be put in operation.

It is consolatory to notice the fact, that the faults of our system are not inherent, but have their origin in some departure from the simplicity of the original idea. Thus, when the four months' course of lectures was established, it was supposed that the alternation of eight months of reading, with four of public instruction, would afford an agreeable variety to the student, and allow him an opportunity of reversing the ordinary mode of hibernation, by taking his full meal of mental aliment in the winter, and retiring to suck his paws in a quiet office during summer. In furtherance of this idea, it was ordained that a third course of lectures should be unattended by other expense than the matriculation and graduation fees; thus holding out a strong inducement to the tyro to sit at the feet of his Gamaliels three terms, instead of the obligatory two.

But here crept in a departure from the fathers, in the shape of sundry double-barrelled schools,—this happened before the days of revolvers—wherein two courses of lectures were given annually. In these institutions, the student was set up on the benches early in August, and regularly peppered with medical lore six hours daily, until the close of November, when he was turned loose to recover from his headache until March; then subjected to a repetition of the same old lectures from the same solemn professors, until the close of June, when, on some hot summer afternoon, he was discharged with a diploma, just in time to reap the benefits of dysentery and autumnal fevers.

---

* [In asserting in our last number the superiority of what we dignified with the name of the American System of Medical Education, we did not intend to claim for it perfection, or to be ranked even as very stringently conservative in regard to it. That it has its shortcomings, its sins of omission and commission, is very obvious. We are progressive in all our habits of thought, and acknowledge perfection in nothing of human origin. But, to repeat ourselves, we regard the system itself as satisfactory;—the manner in which it is carried out is another consideration; and as bearing upon these points, submit the above communication from the pen of a well-known lecturer and writer, whose views, while they do not altogether coincide with our own, are evidently those of an able and well-balanced mind. We publish the article upon its own merits.—ED.]

This plan of instruction is still pursued in some rural institutions. Its chief merit is in the abundant opportunity it offers for cheating as to time, and the convenience it affords for students rejected at some respectable school; permitting them to forget their disgrace, and placing their fortunes in gentler hands, to graduate any how, at the end of four months from the time of their rejection. Aside from these incidental advantages, they hold out the inducements of cheapness, and it must not be forgotten that a systematic cramming for eight months in the year supposes remarkable powers of digestion on the part of the student. Another pleasant feature is, that it allows professors to earn more money with less work, and particularly benefits those peripatetic philosophers, who go about doing good and dividing the influence of their names in three or four different schools, where, not unfrequently, they teach three or four different branches.

Satire aside, this system of two terms annually, in which the same lectures are repeated, is hurtful and injurious to the cause of education, and a proper subject for the censures of the profession and the press.

Closely analogous to the double-barrelled colleges are the revolving professors, those men so surcharged with science that no less than three or four professorships, in different schools, can give vent to their erudition. The revolving professor is an animal *sui-generis.* Not unfrequently he teaches different departments in each of his schools; his brain is multilocular, and the different sections of it are closely packed with as many kinds of learning. This nomadic method of teaching is full of serious faults. The influence of the teacher is divided among the various schools in which he has chairs, so as to be nearly neutralized. He is only attached to a school as his pecuniary interest may dictate, and is ready to leave it at any time when it most needs his aid. Throwing aside these considerations of interest, however, it is evident that he who attempts to give more than one thorough course yearly, attempts too much, especially if he essays more than a single branch.

A scanty professional corps is another fault of some schools. In no form of effort is a division of labor more productive than in medical teaching, and without it the matter taught is bare, compendious, and lifeless, unassociated in the speaker's mind with any effort of his own, or any attempt to attain distinction in a subject of which he knows but little himself. The teacher who is compelled to embrace within his course a large range of subjects, must be a miracle of industry if he would undertake the condensation necessary to teach them well.

Of all the serious faults connected with our system, the worst is the attempt to dispense with clinical teaching. By this time the doctrine should be established, that no school should exist without the advantage of clinical instruction for its students. It seems absurd to argue this question, but it is only a very few years since our national association published in its proceedings an elaborate argument intended to prove that disease could be taught as well in the lecture-room as in the ward. The particular process of reasoning by which this marvellous result was reached does not now recur to me, except that it was proposed to confine the duty of the college to didactic instruction, leaving the student to his private instructor for bedside teaching. We will not stop to discuss such a proposition, for it is to me, and I trust to the readers of the "Review" sufficiently obvious that no school of medicine should be established or maintained where it has not the benefit of the admission of its class to some sufficient hospital. I am aware of the objections raised, of that tender humanity which repeats the old wives' story, that a hospital is designed as a safe refuge for the sick, and not as a theatre for medical display and experiment. I have seen all this and much more similar balderdash repeated during the past month, in a medical journal of considerable pretension to character, but I have no patience with it and no words to express my aversion to so narrow-minded a view.

I take the other ground. I assert that one great good to be derived from a hospital, a good sufficient in itself to induce its foundation, is the opportunity for observing disease collectively, and for pointing out to the student its various phases and conditions. I would go further: an obstetric clinic is not in itself objectionable. It *can* be made so offensive and vulgar as to shock the moral sense of the most obtuse, but it *will not* in the hands of the good men who make up the list of our professors of obstetrics. But I can imagine something worse than vulgarity,—a young graduate, without the vaguest knowledge of the practical manipulations of the art, or the etiquette of the lying-in room, in charge of a case of placenta prævia. I know of obstetric clinics where no sense of modesty, however fine, is disturbed, and which still afford to the advanced student abundant means of practical instruction.

I repeat, that where the means of clinical instruction are not available, no medical school should exist, and the attempt to maintain one is a quackery, if to claim to perform that which one cannot do, constitutes the true definition of quackery.

Thus far in my enumeration of evils, I have mentioned only those which are limited to a comparatively small number of schools. Many of our colleges are entirely free from them, and everywhere these evils seem to be on the decrease. But very few schools now hold two courses annually, and some of the older colleges have taken the bold position of refusing to graduate students who thus crowd all their public instruction into a single year. Most of the schools, also, have learned that the itinerant professors are not the most desirable of colleagues; and policy, if not the good of the profession, leads them to insist on single chairs. In others, too, may be noticed enlargement of the faculty, the separation of collateral from the practical branches, as in the creation of distinct chairs of pathology; and there are but few who now dare to take open ground against the necessity of clinical instruction. That any should do it, is a disgrace to American medicine.

The tendency, then, is toward reformation. But little talk is needed. It is in the power of the better schools to either kill out or reform the inferior order, just as the latter may be possessed of vitality. The noble competitive element in our system is already doing this. Let colleges which possess unusual advantages say so in their circulars, in any manly, straightforward way; let them use the great engine of modern business, the advertisement; let them consider teaching as a business which ought to pay if honorably conducted, and see to it that no absurd old fogyish notions of dignity interfere with their just claims to consideration. There are a dozen schools whose death is eminently desirable, and any honorable means which will hasten their final departure will do a great public good.

I would that I could stop here, and feel that I had touched on all the faults of our system; I would that those nobler schools which perpetuate the excellencies of the palmy past of American medicine, or those junior institutions ennobled by true science, by energy, and by faithful labor, were beyond and above the reach of the critic. In all of these there is so much that is grand and honest, so much self-sacrifice, so much true zeal for the honor of the profession, that I unwillingly touch on faults which they possess, and which call for remedy. Fortunately for us, these are not errors of the men of the present, but heir-looms of the past, come down to us from primitive days and engrafted in our system in its feeble infancy, when the wisest and the boldest of the fathers were compelled to submit to their inexorable surroundings. I can speak here in kindly tones, for I know that I address noble hearts, which only wait for the proper time and opportunity to beat with one common throb in any enterprise which promises good.

A reform, which will soon be loudly called for, and which is rapidly becoming inevitable, is an extension of collegiate instruction through the year; the distribution of the various branches into regular terms appropriated to them; and the diminution of the importance of the present winter course, by reducing its number of daily lectures to the capacity of the student.

I am aware that this is a broad and almost radical change, and that it involves within itself many questions of the gravest importance. Let me first sketch my ideal of a medical college, and then consider its advantages and the arguments to be brought against it.

1. The establishment of a collegiate year divided into two terms, one of four, and the other of five months. The first course to commence on the first of March, and continue until the first of July; to be followed by a vacation of two months during the hot season. The second course to begin on the first of September, and hold till the close of January.

2. The same professorships as are now maintained in our best schools.

3. During the year two lectures daily, preceded by recitations. On no account to exceed three lectures on one day, and the third to be a clinical lecture, occurring, say twice a week. Dissections to be continued during all suitable seasons, the time to be at the option of the student.

4. The spring and autumnal course to be dependent on each other. For instance, let Materia Medica, Chemistry, Anatomy, and Physiology, be taught in the spring; and Practice, Pathology, Surgery, Obstetrics, and Jurisprudence, in the fall.

Such is a rough sketch of a plan. Its advantages are manifest. The student would commence with the collateral sciences in the spring, and be fitted for the practical departments in the fall of the year. His time would be occupied sufficiently to make his studies a constant occupation, but not so much as to fatigue him beyond endurance, or deprive him of the necessary hours for reading and recreation. The smaller number of branches under consideration at one time, would prevent that strange confusion of ideas which is the misfortune of our present crowded winter courses. Finally, a repetitition of three such years would send out well-qualified practitioners, with their knowledge well arranged and practically useful.

To the teacher, other inducements will readily present themselves. It would require no more time than the present plan, while he could more easily adapt his hours to his business convenience, than in the crowd and hurry of the ordinary session, when he is necessarily compelled to yield much to the convenience of his colleagues. Pecuniarily, the number of students being equal and the fees being unchanged, he would receive the same emolument for the same labor.

The difficulties in the way will be found in the competition of money-seeking schools, which will cling to the old system and bid for students on the plea of less time and expense. But let the leading schools of New York and Philadelphia combine on such a plan, and they would soon crush out all opposition. It is hardly to be expected that the movement would be unanimous, but there is much reason to suppose that it would be finally successful. Another and more considerable opposition would arise from the students themselves, or that large class of them who are in search, not of an education, but a diploma. But the prestige attending graduation from such a school would do away with this. The argument is money; and those that have money (I speak here on the supposition that the expenses would be increased, simply by a prolonged city residence), will part with it for the eclat of a thorough education, or for the better motive of the education itself. Those that have no money get through now, with a system nearly as expensive, somehow; and I presume they would do so still. Let them run in debt, or carry along some temporary occupation. Such must oftener beget success than failure; and it is a peculiarity of poor but high-spirited students that they seek the best advantages.

But supposing that it very largely increased the expense of an education, what would be the general result? Men of energy and character find their way into the profession of law through greater difficulties than those with which we propose to environ the entrance to that of medicine. And others than men of energy and character had better stay out. I am aware that the tendency of the day is to cheapen all forms of education, to throw open every pathway to position and preferment. So far as this applies to that degree of education necessary to teach the poor man his rights and his duties to the body politic, all true men will go with this tendency; but this does not reach beyond a comprehensive and liberal system of common schools.

The further disposition to cheapen and make easy the pathway to the learned professions is a specious theory, which flatters only to destroy. It holds out inducements to the weak and indolent to assume the onerous responsibilities of a path of life beyond their abilities; it does them the greatest wrong that can by any possibility be done any man, by placing them in a false position, when a lifetime must be spent in vain regrets over the youthful vanity and folly which led them from the calm and peace of humbler duties to a struggle for which they are incompetent.

One of the greatest evils of our profession is the lack of recognition of its proper social position, and the low pecuniary estimate placed upon its services at the bedside. Two causes exist for this; one is the ease with which the profession is entered, the hordes which crowd into it attracted by its cheapness, and the competition for "custom," which naturally results. Another is the character of the men who make up its rank and file. It is of no use to say that the profession is not properly appreciated. Taken in the mass, it is. The verdict of Molière has been confirmed by the people, and the voice of an enlightened people is the voice of God, when through centuries it utters one unchanging opinion. The fault is in ourselves, and we alone can remedy it.

I suppose that a temporary result of the scheme here proposed would be a falling off in the number of students, but another and more important result would be an increased respect in the public mind for our art, and an increased emolument to the physician. Let it be carried out fully for a few years, and we should fill the profession with gentlemen, who would command social position, and elevate at once the character and the emolument of the physician. We should shut out the *profanum vulgus*, draw to us men of liberal minds, and place the American profession beyond that of any other nation in the prestige of its true nobility.

Finally, for I have occupied much space, all this can be done, but not at once; time for the preparation of the public mind is necessary, the schools should be brought to recognize the merits of the plan, and, above all, in our hot haste for reformation, we should beware lest we endanger our present grand old fabric.

The provision of partial summer courses, teaching some of the collateral departments only and conferring no degrees, at once suggests itself as a means, feasible at the present moment and likely to lead eventually to the broad reform I hope to live to see. In the meantime let the censure of the press and the profession fall heavily on all those inefficient schools which fail to meet the present standard of excellence.

To return to the comparison with which I started. We must remove one by one the timbers of our noble structure, replacing them cautiously by better materials; and in the end we shall altogether renovate it, giving it strength, solidity, and permanence; while, in the meantime, the rush of human life shall pass by it uninterrupted and unconscious of a change.

PROCEEDINGS OF THE TENTH ANNUAL MEETING OF THE AMERICAN MEDICAL ASSOCIATION.

(Condensed from the Nashville newspapers.)

NASHVILLE, May 5th, 1857.

THE Association met at 11 o'clock, A.M., in the Representative Hall of the State Capitol, the President, Dr. Zina Pitcher, of Michigan, in the chair, and upon his right Dr. W. K. Bowling, of Tennessee, one of the Vice-Presidents. Dr. Wm. Brodie, of Michigan, and Dr. R. C. Foster, of Tennessee, Secretaries, were present.

The meeting having been duly organized, Dr. C. K. Winston, chairman of the Committee of Arrangements, on behalf of the Committee, and of the Medical Profession of the city generally, extended a sincere and cordial welcome to the members of the Association in a few pertinent and appropriate remarks.

Upon the call of the roll the following delegates, permanent members, and members by invitation, numbering in all one hundred and forty-six, and representing nineteen States answered to their names.

Connecticut.—Charles Hooker.

New Hampshire.—Adoniram Smalley.

New York.—James R. Wood, D. M. Reese, George N. Burwell, and Alden March.

Pennsylvania.—Robley Dunglison, B. F. Schenck, Caspar Wister, and P. Cassidy.

Georgia.—Henry F. Campbell, C. R. Walton, N. F. Powers, A. H. Means, Joseph P. Logan, M. H. Oliver, Thomas S. Powell, J. Gordon Howard, R. D. Arnold, Geo. P. Padford, and Pike Brown.

Alabama.—G. M. Merriweather, W. P. Reese, A. F. Alexander, S. W. Clanton, W. H. Thornton, P. C. Winn, T. Stith Malone, W. J. Bass, G. D. Norris, J. F. Sowell, and J. W. Morris.

Tennessee.—Frank A. Ramsay, James Rodgers, R. O. Currey, B. B. Lenoir, J. L. C. Johnston, Jno. M. Boyd, Geo. R. Grant, T. A. Atchison, S. S. Mayfield, J. D. Kelley, T. L. Maddin, J. D. Winston, J. E. Manlove, G. A. L. Mayfield, Richard Owen, W. P. Jones, G. F. Smith, J. S. Burford, Jno. P. Ford, Robert C. Foster, John H. Callender, John H. Morton, A. H. Buchanan, James W. Hoyte, N. C. Perkins, John B. Lindsley, C. K. Winston, Paul F. Eve, permanent member; W. P. Moore, Milo Smith, Wallace Estill, B. W. Avent, H. H. Clayton, H. M. Whittaker, H. B. Manlove, T. M. Woodson, A. Ewing, Robert Martin, W. K. Bowling, P. S. Woodward, R. F. Evans, Thos. Lipscomb, M. Ransom, J. A. Long, Jno. M. Watson, W. D. Haggard, Jno. S. Park, D. B. Cliff, T. G. Kennedy, T. R. Jennings, Ira Conwell, W. H. Childress, W. A. Cheatham, J. F. Towns, J. M. Brannock, B. C. Jillson, P. W. Davis.

Louisiana.—S. O. Scruggs, Robert A. New, Cornelius Beard, and E. D. Fenner.

Kentucky.—Samuel Annan, R. W. Gaines, J. B. Flint, J. W. Singleton, R. J. Breckinridge, S. C. Porter, W. S. Chipley, S. M. Bemiss, L. G. Ray, W. A. Atchison, E. G. Davis, L. E. Almon, D. W. Yandell.

Indiana.—W. H. Byford, W. W. Hitt, Isaac Mendenhall, T. Bullard, N. Johnson.

Illinois.—J. C. H. Hobbs, A. H. Lace, James M. Steel, E. K. Carothers, T. K. Edmiston, W. A. Hills.

Missouri.—S. Pollak, E. S. Fraser, Jno. S. Moore, C. A. Pope.

Michigan.—A. B. Palmer, L. G. Robinson, Zina Pitcher, Wm. Brodie, L. H. Cobb, M. Gunn, Lewis Davenport, P. Cline, M. D. Stebbins.

Iowa.—Asa Horr, Wm. Watson, D. L. McGugin, J. C. Hughes.

Ohio.—Henry F. Koehne, J. M. Mosgrove, B. S. Browne, D. Ferris.

Wisconsin.—Hays McKinley, J. K. Bartlett.

South Carolina.—E. R. Henderson, M. S. Moore, R. W. Gibbs, R. S. Bailey.

Mississippi.—F. B. Shuford, J. S. Cain.

Arkansas.—F. Grundy M'Gavock.

On motion of Dr. C. K. Winston, Drs. Felix Robertson, J. Shelby, and J. Overton, were made permanent members of the Association.

The usual recess to allow each State Delegation to select a member to serve on the Committee on Nominations having been taken, the following list was reported:

Charles Hooker, Conn.; Adoniram Smalley, N. H.: W. W. Hitt, Ind.; J. R. Bartlett, Wis.; James R. Wood, N. Y.; A. B. Palmer, Mich.; J. S. Moore, Mo.; J. K. Edmiston, Ill.; R. J. Breckinridge, Ky.; F. Grundy M'Gavock, Ark.; B. S. Brown, Ohio; R. W. Gibbs, S. C.; W. P. Reese, Ala.; F. B. Shuford, Miss.; Richard M. Cooper, N. J.; S. O. Scruggs, La.; P. Cassidy, Penn.; Thomas S. Powell, Ga.; J. B. Lindsley, Tenn.; Asa Horr, Iowa.

On motion of Dr. Charles Hooker, it was resolved that the President, Dr. Z. Pitcher, be now requested to deliver his annual address.

The President then delivered his address, which, after the customary thanks ot the Association, was referred to the Committee on Publication.

Judge Catron, of the United States Supreme Court, being present, was invited to a seat on the stand.

The Report of the Committee on Publication was next read by Dr. Caspar Wister, of Pennsylvania, and also that of the Treasurer, Dr. Wister, which, after being adopted, were referred to the Committee on Publication.

The President informed the Association that Dr. F. Campbell Stewart, of New York, Dr. Alden March, of New York, Dr. Isador Glück, of New York, and Dr. J. Pancoast, of Pennsylvania, had been appointed to represent the Association in foreign scientific bodies.

The Committee on Prize Essays requested further time.

The only report received from the several committees on Medical Topography and Epidemics, was one from Dr. Peregrine Wroth, of Maryland, which, with accompanying reports from Drs. A. M. White and Edmund E. Waters, was referred to the Committee on Publication.

Dr. Arnold presented a report from Dr. J. F. Posey, of Georgia, but subsequently withdrew it, for the purpose of making an abstract of it.

The Committee on Nominations now appeared, and reported the following officers of the Association for the ensuing year:

President—Dr. Paul F. Eve, of Tennessee.

Vice-Presidents—Drs. R. J. Breckinridge, of Kentucky; D. M. Reese, of New York; W. H. Byford, of Indiana; and Henry F. Campbell, of Georgia.

The nominees were duly elected, and Drs. Wister, Arnold, and McGugin, were appointed a Committee to conduct the newly-elected officers to their respective chairs. But the President elect being absent, the Association adjourned.

SECOND DAY.

The Association having met pursuant to adjournment, and the minutes read and adopted, the newly-elected officers were inducted to their respective seats.

Dr. Eve, in taking the presidential chair, made a brief and appropriate address.

Dr. Winston read the names of additional delegates.

The President appointed Drs. Currey, Grant, and Evans, a Committee on Voluntary Contributions.

Dr. Arnold read an abstract from Dr. Posey's Report, which was referred.

Numerous States were called upon for reports upon Medical Topography and Epidemics; but there was either no response, or the committees asked further time.

A communication was received from the Southern Methodist Publishing House, inviting the members of the Association to visit that establishment, and the invitation accepted.

Dr. Lindsley read a communication from the Medical Association of Washington City, inviting the Association to hold their next Annual Meeting in that city. Referred to the Committee on Nominations.

A resolution of thanks to the late President, for the able manner in which he presided over the meetings of the Association, was unanimously adopted.

The reports of Special Committees for 1856–7 being next in order, were called for, and the following presented:

[We omit the enumeration of committees from which no reports were received.]

Causes of Infant Mortality, &c. Dr. D. Meredith Reese, of New York, read an abstract of his report, which was referred to the Publishing Committee.

Blending and Conversion of the Types of Fever. Dr. C. G. Pease, of Wisconsin. Report and communication sent, but not received. (Subsequently received, and referred to the Committee on Voluntary Contributions.)

Use of Cinchona in Malarious Diseases. Dr. F. Hinkle, of Pennsylvania. Report referred to Publishing Committee.

Nervous System in Febrile Diseases. Dr. H. F. Campbell, of Georgia. Report; verbal abstract given; referred.

Medical Topography and Fauna of Washington Territory. Dr. G. Suckley, United States Army. Report presented and referred.

Flora of Washington and Oregon Territories. Dr. Jas. Cooper, of New Jersey. Report presented and referred.

Etiology and Pathology of Epidemic Cholera. Dr. T. W. Gordon, of Ohio. Partial report presented and referred.

[Between the calling of some of the reports, other subjects were introduced and discussed, but none of any special interest, except the following:]

The Secretary read a protest, signed by Drs. Richard Arnold, J. G. Howard, P. Brown, and G. P. Padford, against admitting the delegates from the Oglethorpe Medical College. A warm discussion ensued, and the whole matter was finally referred to a committee of three, to be appointed by the chair.

The chair appointed Drs. Wister, of Penn., Bemiss, of Ky., and Gibbs, of S. C., who subsequently reported in favor of admitting the delegates mentioned. The report was adopted.

Resolutions of regard to the memories of Drs. Grafton, of Miss., Robert M. Porter, of Tenn., and J. L. Mothersett, of Indiana, were presented respectively by Dr. Dunglison, Dr. Bullard, and the Secretary, all of which were unanimously adopted.

A communication was received from the Connecticut Medical Society, asking that the time for holding the meetings of the Association in Northern cities be changed to a later period in the year. Referred to the Committee on Nominations, with instructions to report.

THIRD DAY.

The Association having met, the minutes read and adopted, Dr. Hoyt, from the Committee on Arrangements, read the names of additional delegates.

Dr. Currey, from the Committee on Voluntary Contributions, reported in favor of publishing the following papers in the Transactions of the Association:

1. *A new Principle of Diagnosis in Dislocations of the Shoulder-Joint.* By Dr. L. A. Dugas, of Georgia.
2. *Medical Statistics of Washington Territory.* By Dr. George Suckley, U. S. Army.
3. *Medical Flora of Washington and Oregon Territories.* By Dr. G. A. Cooper.

Dr. Lindsley, from the Nominating Committee, submitted the following report:

Committee on Nominations beg leave to report:

Secretaries.—Robert C. Foster, of Tenn.; A. J. Semmes, of Washington City.

Treasurer.—Caspar Wister, of Philadelphia.

For the next place of meeting, Washington City.

STANDING COMMITTEES.

Committee of Publication.—Francis G. Smith, of Philadelphia, Chairman; Caspar Wister, of Philadelphia; R. C. Foster, of Nashville; A. J. Semmes, of Washington City; Samuel L. Hollingsworth, of Philadelphia; Samuel Lewis, of Philad.; H. F. Askew, of Delaware.

Committee on Prize Essays.—Grafton Tyler, of Georgetown, D. C., Chairman; J. C. Hall, of D. C.; J. F. May, of D. C.; Thomas Miller, of D. C.; A. J. Semmes, of D. C.; Joshua Riley, of D. C.; W. J. C. Duhamel.

Committee of Arrangements.—Harvey Lindsley, Chairman; W. J. C. Duhamel, Cornelius Boyle, P. H. Coolidge, G. M. Dove, A. Y. P. Garnett, Wm. P. Johnston, of D. C.

Committee on Medical Education.—G. W. Norris, of Philadelphia, Chairman;

A. H. Luce, of Ill.; E. R. Henderson, of S. C.; G. R. Grant, of Tenn.; T. S. Powell, of Ga.

Committee on Medical Literature.—A. B. Palmer, of Detroit, Chairman, A. F. Alexander, of Ala.; J. M. Mosgrove, of Ohio; P. Cassidy, of Penn.; S. Pollak, of Missouri.

Vacancies in Committee on Medical Topography and Epidemics.—T. B. Shuford to fill the vacancy caused by the death of Dr. Grafton, of Miss. C. W. Parsons to fill the vacancy caused by resignation of Joseph Mauran, of Rhode Island.

SPECIAL COMMITTEES.

Spontaneous Umbilical Hemorrhage of the Newly Born.—J. Foster Jenkins, of New York.

Influence of Marriages of Consanguinity upon Offspring.—Dr. Bemiss, of Ky.

Functions of different portions of the Cerebellum.—E. Andrews, of Ill.

Causes of the Impulse of the Heart and the agencies which influence it in health and disease.—J. W. Corson, of New York City.

Treatment of the results of Obstructed Labor.—J. Marion Sims, N. Y.

Treatment best adapted to each variety of cataract, with the method of operation, place of election, time, age, &c.—Mark Stephenson, of N. Y.

Human, Animal, and Vegetable Parasites.—Joseph Leidy, of Phila.

Best substitutes for Cinchona and its preparations in the treatment of Intermittent Fever, &c.—B. S. Woodward, of Ind.

Intimate structure and pathology of the Kidney.—Charles E. Isaacs, of N. Y.

Etiology and Pathology of Epidemic Cholera.—T. W. Gordon, Georgetown, Broome Co., Ohio.

Inflammation of Cervix Uteri.—Henry H. Miller, of Louisville, Ky.

On Milk Sickness.—W. H. Byford.

Best means of causing an increase of the number of Essays.—Drs. Leidy, Woods, and Meigs, of Pa.

Changes produced in composition and properties of Milk.—N. S. Davis, of Ill.

Stomatitis Materna.—D. C. McGugin, Iowa.

On Criminal Abortion, with a view to its general suppression.—H. N. Storer, of Boston.

The Committee recommend the amendment of the third article of the Constitution, in relation to *meetings*, by inserting after the words, "first Tuesday in May," the words, "*or the first Tuesday in June*," and also by inserting after the words, "shall be determined," the words, "*with the time of meeting*."

Special Committee on the present state of science, as regards the pathology and therapeutics of the reproductive organs of the female.—D. Fordyce Barker, of New York.

On Moral Insanity.—D. Meredith Reese, M.D., New York.

On Calculi and Diseases of the Urinary Organs, in Iowa, Minnesota, and Nebraska.—Dr. J. C. Hughes, of Keokuk.

On the nature, tendency, and general treatment of Syphilitic Buboes.—Moses Gunn, of Detroit.

On Medical Education—(By Dr. Currey's resolution, reported below).—James R. Wood, of New York; George R. Grant, Memphis, Tenn.; John Watson, New York; C. B. Nottingham, Macon, Ga.; R. La Roche, Philadelphia, Penn.

To fill a vacancy in the Committee on Medical Topography and Epidemics.—Dr. J. L. Cabell, Charlottesville, Va.

The report of the Committee was adopted.

Dr. Pitcher offered the following resolution, which was unanimously adopted:

Resolved, That a Committee of three be appointed, of which the President of the Association shall be Chairman, to communicate with the Surgeon-General of the Army, the chief of the Medical Bureau of the Navy, and the Secretary of the Treasury of the United States, with a view to secure the concurrence of these departments of the Federal Government, so that its contributions to the Medical Topography, the Vital Statistics, and the Sanitary Police of the nation, may be made tributary to the labors of this Association.

The Chairman appointed as such committee, Drs. Z. Pitcher, of Michigan, and R. H. Coolidge, of Kansas.

A Resolution was introduced by Dr. Yandell in reference to the admission of delegates from medical schools, having less than six professors, and holding more than one session per year.

After some discussion Dr. Currey offered the following as a substitute, which was finally adopted.

Whereas, The subject of Medical Education has been committed at each annual Session to standing committees, and various suggestions have been proposed which the Association has adopted, and recommended to private instructors and to the Medical Colleges.

Resolved, That a committee of five be appointed by the Committee on Nominations, as a Special Committee, to be composed of members who are in no respect connected with any Medical School, to devise *a System of Medical Instruction,* to be presented for the consideration of this Association at its Annual Session in 1858.

Resolved, That the proposed system shall set forth a uniform basis upon which our Medical Institutions shall be organized, as well as have reference to the best mode of securing the Preparatory Medical Instruction to the Student; and that consequently the legitimate subjects to be embraced in said system will include Primary Medical Schools; the number of Professorships in Medical Colleges, the length and number of terms during the year, the requisite qualifications for graduation, and such other subjects of a general character as to give uniformity to our Medical System, and preserve harmony and friendly intercourse in the ranks of the profession.

Resolved, That, upon the adoption of the proposed system by the Association, all Institutions which may conform to it shall be entitled to representation at the Annual Sessions of this Association, and none others.

Dr. Bowling, chairman of the Committee on Prize Essays, submitted the report of said committee, as follows:—

The Committee on Prize Essays report that four essays have been received, each possessing great merit.

The committee selected the two following essays for the two prizes provided for at the last meeting of this Association:

1. One entitled "The Excreto-Secretory System of Nerves: its Relations to Physiology and Pathology." Motto: "*Observation becomes experiment when used in severe processes of induction.*" Signed, Henry Frazer Campbell, Georgia.

2. "Experimental Researches relative to the Nutritive Value and Physiological Effects of Albumen, Starch, and Gum, when singly and exclusively used as Food." Motto:

> "Quum sequimus? quone in jubes? ubi ponere sedis?
> Da pater augurium, atque animis illabere nostris!"

Signed, William A. Hammond, M.D., Assistant Surgeon, U. S. Army.

The Committee on Voluntary Contributions reported in favor of the publication in the Transactions of the Association of the following paper: "On the Blending and Conversion of Types in Fever." By C. S. Pease, M.D., of Wisconsin. The report was adopted.

The amendments to the Constitution proposed by Dr. Stocker, of Pa., at the last annual session, were taken up and laid on the table.

Dr. Lindsley offered the following amendment to the Constitution, which was seconded by Dr. Gunn:

In Art. II. omit the words "medical colleges," and also the words "the faculty of every regularly constituted medical college or chartered school of medicine shall have the privilege of sending two delegates."

The amendment lies over until the next meeting of the Association, under a rule of the organization.

On motion of Dr. Palmer, the resolutions reported at the last annual meeting of the Association, by the Committee on Plans of Organization for State and County Medical Societies, were taken up and adopted.

After the transaction of some other unimportant matters the Association adjourned, *sine die.*

PROCEEDINGS OF THE QUARANTINE CONVENTION.

(Condensed from the published Report.)

The Quarantine Convention met in the Supreme Court Room, Philadelphia, May 3, 1857, and after a temporary organization, was addressed by Dr. Wilson Jewell, who stated the object of the meeting, read an invitation from the Philadelphia Board of Health, and on behalf of the Board, welcomed the delegates to Philadelphia.

Dr. Jewell then concluded his opening address with a brief sketch of the quarantine regulations in force at the different sea-ports of the United States.

The names of seventy-three delegates, from nine different States, were then read.

A nominating committee of one from each State having been appointed, and rules of order adopted, on motion of Mr. Haswell, of New York, a committee of five was appointed by the Chairman, to report the rule of representation by which the Convention was to be governed.

The chair appointed Mr. Haswell, of New York; Dr. Condie, of Philadelphia; Dr. Jones, of New Orleans; Mr. Quincey, of Baltimore; and Alderman James, of Boston.

The Committee on Nominations reported the following delegates for election, as permanent officers of the Convention:

President.—Dr. Wilson Jewell, of Philadelphia.

Vice-Presidents.—Dr. E. H. Barton, of New Orleans, and the Hon. Alex. H. Rice, of Boston.

Secretaries.—Dr. Edward Hartshorne, of Philadelphia, and Homer Franklin, Esq., of New York.

The nominations having been unanimously confirmed, the Convention was permanently organized, with the President, Dr. Jewell, in the chair.

After the reading of various invitations, on motion of Dr. Askew, of Delaware, it was

Resolved, That a Committee of seven be appointed to prepare and arrange business for the Convention.

Whereupon the Vice-President appointed Dr. Askew, of Delaware; Dr. Kemp, of Baltimore; Dr. Barton, of Louisiana; Dr. Condie, of Philadelphia; Dr. Hayward, of Boston; Dr. Parsons, of Rhode Island; and Dr. Selden, of Virginia.

The Committee to determine the rule of voting, then reported the following resolution:

Upon all questions involving the final decision or recommendation of this Convention, each body represented shall have one vote; but on all matters occurring in the current business of the Convention, each delegate shall have a voice.

A communication from Dr. Sterling, of New York, was referred to the Committee on Business.

On motion of Dr. Askew, Messrs. Homer Franklin, of New York, and J. H. Diehl, of Philadelphia, were added to the Committee on Business.

The Committee then offered a partial report and asked leave to sit again.

SECOND DAY.

The Convention having been called to order by the President, the roll was called, and fifty-four delegates answered to their names.

A letter from Dr. Thompson, of New York, was read.

The Committee on Business then presented a partial report printed, the resolutions contained in which formed the subjects of discussion throughout the day.

[We deem it unnecessary to insert the numerous suggestions, amendments, &c., offered by the various delegates during this and the succeeding day, but will content ourselves with the Report as finally adopted, premising that the Convention resolved to meet again next year at Baltimore, and that its name be changed to THE QUARANTINE AND SANITARY CONVENTION.]

The Report from the Committee on Business, as amended, reads as follows:

Whereas great interest has been awakened in the questions pertaining to commercial intercourse among the nations of the earth, and to the close relations, under various circumstances, of the health of communities to the regulations which affect this intercommunication; and inasmuch as there is great diversity and irregularity in the rigor of enactment which characterizes the legislation of different bodies upon this subject; therefore be it

Resolved, That it is expedient that the system of Quarantine Regulations be revised, and that correct principles, as far as scientific research and observation have developed them, should be the basis of future enactments, to the end that a uniform code, as far as practicable, may be secured in all our ports.

Resolved, That the following propositions be regarded as the sentiment of this Convention.

1. There are certain diseases which may be introduced into a community by foul vessels and cargoes, and diseased crews and passengers.

2. These diseases are small-pox, and under certain circumstances, typhus fever, cholera, and yellow fever.

3. When the latter diseases are introduced in this manner, their action is limited to individuals coming within their immediate influence, and cannot become epidemic or endemic, unless there exist in the community the circumstances which are calculated to produce such disease independent of the importation.

4. That the circumstances alluded to, consist in vitiated states of the atmosphere, from local causes, in connection with peculiar meteorological conditions.

5. Efficient sanitary measures, including quarantine, will in most cases prevent the introduction of these diseases, and may, at any rate, disarm them of their virulence, and prevent their extension when introduced.

6. The present quarantine regulations, in operation in most of our States, are inefficient, and often prejudicial to the interests of the community.

7. Disease may be introduced: 1st, by a foul vessel, especially when proper measures are not taken to keep the hold free from stagnant and putrid bilge-water; and more particularly when there exist in the hold droppings or drainage from putrescible matters which are allowed to penetrate and remain between the timbers of the ship. 2d. By cargoes consisting, in whole or in part, of rags, cotton, or like porous substances, shipped from ports at which any malignant epidemic or endemic disease of a contagious or infectious character prevailed at the time when the vessel was loaded. 3d. By the filthy bedding, baggage, and clothing of immigrant passengers, particularly when these are crowded together in insufficient quarters, although the passengers themselves may be free from any actual disease. 4th. By the air that has been confined during the voyage in closely sealed and ill-ventilated holds. 5th. By squalid and diseased passengers landed and crowded together in unhealthy neighborhoods, or in small and ill-ventilated dwellings. 6th. By passengers and crews, who are actually laboring under, or infected with any positively contagious disease; their bedding, clothing, and baggage.

8. To prevent, therefore, the introduction of disease from the several causes enumerated, the necessity is apparent of providing a system by which all parts of a vessel may be ventilated during a voyage; and for the careful inspection of all vessels immediately upon their arrival, and before they are allowed to come up to the wharves of a city, for the landing of their passengers and discharge of their cargoes. No vessel, arriving between the 1st of May and the 1st of November, should, in fact, be admitted to a port, until her hold is freely and fully ventilated, nor until the bilge-water is entirely removed.

9. Provision should be made for the immediate landing of all those portions of

the cargo of a vessel, and the baggage and clothing that may be judged capable of generating or communicating disease, and for their proper purification, at such places and under such regulations as shall preclude all danger of their exerting a morbific influence, either immediately, or upon their subsequent admission into the city.

10. Provision should be made also for the immediate landing of all such persons from on board of vessels as they arrive, and their due and comfortable accommodation and treatment, until such time as they can be taken charge of, and properly cared for by their friends.

11. In the case of a ship-load of squalid passengers, or those strongly predisposed to disease, their clothing, beds, and other effects, should be at once subjected to a thorough ventilation and purification; and, upon their landing, adequate measures should be adopted to prevent them from crowding together in confined, unhealthy, and ill-ventilated dwellings and localities.

12. When a vessel arrives in a foul condition, or on board of which disease has prevailed during the voyage, after her crew and passengers have been removed from her, she should be subjected to a thorough process of cleansing and purification; for which purpose it may be necessary to discharge her cargo at a safe distance from the city, and to allow only such portions of it to be conveyed there as are incapable of creating disease, the residue being subjected to ventilation in such manner as shall prevent it from suffering damage and all unavoidable deterioration.

13. The carrying out of these provisions should be intrusted to a single officer, with such assistants as may be required to aid him in the performance of his functions.

14. This officer should be a regular physician, of unquestionable talents and experience, and possessed of great decision and rectitude of character.

15. His compensation should be sufficiently ample to enable him to devote his entire attention and energies, throughout the year, to the duties of his office.

16. While the power of removing him for incompetency, neglect, or other adequate cause, should be vested in some competent tribunal, his appointment should be based solely upon his capacity to fulfil satisfactorily his incumbent duties, and his continuance in office made dependent upon his faithful and skilful discharge of those duties.

17. To this officer should be intrusted the sole and entire decision, under certain general provisions established by law, as to the treatment required in the case of each vessel that shall arrive, and of its cargo, crew, and passengers, and to place it and these in a condition to prevent any danger of the introduction by them of disease; he, at the same time, being held to a strict accountability for the manner in which the discretionary power thus confided to him is executed.

18. As in every community a Board of Health is necessary to watch over its sanitary condition, and to prevent or remove all domestic sources of disease, this body would appear to be the one in which the power of appointing, and the general supervision of the official conduct of the Quarantine Physician may, with the greatest propriety, be invested.

19. In order to procure a uniformity in quarantine regulations throughout the several ports of the United States, the assembling of another, and probably several, conventions similar to the present one, will be required.

20. To provide for the assembling of such a convention in 1858, it is suggested that the President, Vice-Presidents, and Secretaries of this Convention, with a committee of one member from each State represented, be continued after our adjournment, as commissioners for the purpose of taking the necessary steps for the call of a Convention next year; provided, however, that their powers shall cease immediately upon the assembling and organization of the Convention of 1858.

21. A thorough examination should be made of all immigrants on their arrival; and if they are not protected against small-pox, they should be vaccinated.

22. We recommend that there should be attached to our Board of Health and Quarantine establishments stations for minute meteorological observations and vaccine establishments; and that records of these be published at stated periods, for the public benefit.

23. We advise the introduction of increased comforts for crews and passengers, and the ventilation and purification of vessels by a more effectual method.

On motion of Dr. Condie, it was

Resolved, That the vote of each delegation on the adoption of the Report of the Committee on Business be entered on the minutes.

The delegations voting in the affirmative were: Massachusetts—Boston Board of Health, Boston Port Physician (External Health), Boston Marine Hospital (Internal Health); Rhode Island—Providence Board of Health, Providence Medical Association; New York—Board of Health; New Jersey—Newark Board of Health, Camden Board of Health; Pennsylvania—Philadelphia Board of Health, Philadelphia Board of Trade, Philadelphia College of Physicians, Philadelphia County Medical Society; Delaware—Wilmington Board of Health, Medical Association of Wilmington; Maryland—Baltimore Board of Health, Baltimore Board of Trade, Baltimore Medical and Surgical Society, Baltimore Pathological Society. Those who voted in the negative were: Virginia—Norfolk Board of Health and Norfolk City Council. The delegations from the Common Council of New Orleans and the New Orleans Board of Health, reported each a tie vote.

On motion of Dr. Jones, of New Orleans, it was resolved—

1. That, in addition to the usual quarantine establishments, this Convention recommends the introduction of efficient means for removing all persons of limited means from infection, and for preventing the ingress of immigrants and other unseasoned people into ports and cities laboring at the time under pestilential diseases.

2. That in all cases where rumors and unauthorized reports indicate certain ports or cities as the seats of epidemic and pestilential diseases of the nature provided against, no such reports shall be the basis for action elsewhere, unless sustained by an official declaration of the Boards of Health, or other properly constituted authorities.

3. That all such Boards of Health and other public authorities shall be obligated to declare the existence of invasions of yellow fever and cholera, in their epidemic forms, as they may from time to time make their appearance in the localities under their control.

On motion of Dr. Snow, of Providence, it was then

Resolved, That we recommend the adoption of a complete, accurate, and uniform system of registration of births and deaths in all our cities, as a necessary accompaniment of efficient sanitary measures.

PROCEEDINGS OF THE PENNSYLVANIA STATE MEDICAL SOCIETY.

THE Annual Convention of the Medical Society of the State of Pennsylvania assembled at Westchester on Wednesday, May 27th, 1857; Dr. R. La Roche, President, in the chair. The venerable Dr. Darlington welcomed the Society to Westchester, in a brief but very appropriate address. The following delegates were present:

Beaver County—Drs. David Minis, Jr., Oliver Cunningham.

Berks County—Drs. Martin Luther, P. G. Bertolet, Frank Rieser, Penrose Wiley.

Blair County—Dr. John Feay.

Bradford County—Dr. G. F. Horton.

Carbon County—Dr. G. B. Linderman.

Chester County—Drs. Isaac Thomas, W. Worthington, Isaac R. Walker, Elisha Gatchell, William H. Gunkle, W. W. Townsend, Benjamin Thompson.

Lancaster County—Drs. John L. Atlee, Sr., Adam Schiller, John Ream, P. Cassidy, T. Ellmaker, J. Augustus Ehler, Henry Carpenter, Isaac C. Weidler, J. D. Stubbs.

Montgomery County—Drs. William R. Ramsey, Hiram Corson, Milton Newberry.

Perry County—Dr. Benjamin P. Hooke.

Philadelphia County—Drs. R. La Roche, Wilson Jewell, Isaac Remington, N. L. Hatfield, Edwin Janvier, G. W. Norris, S. L. Hollingsworth, William Mayburry, Alfred Stillé, J. B. Biddle, R. H. Townsend, R. P. Thomas, Samuel Lewis, A. L. Kennedy, John Neill, J. Aitken Meigs, Edward Hartshorne, Ellwood Wilson, L. Curtis, D. D. Clark, George Martin, P. W. Russell, Henry Hartshorne.

Schuylkill County—Drs. F. J. Kern, J. S. Carpenter.

Washington County—Drs. Boyd Emery, George H. Cooke, Stephen L. Blachley.

Dr. La Roche, the President, delivered a very able and elaborate address, for which, on motion of Dr. Ehler, the thanks of the Society were tendered, and a copy was requested for publication in the Transactions.

At the afternoon session, in the absence ot the President, Dr. W. Worthington, Vice-President, occupied the chair.

On motion of Dr. Mayburry, Dr. John Curwen, of Harrisburg, was admitted as a delegate from Dauphin County. On motion of Dr. W. Jewell, Drs. T. G. Richardson and Percy La Roche, of Philadelphia, were invited to seats as members of the Convention.

Sanitary Reports were received from the Medical Societies of Philadelphia, Perry, Beaver, Bradford, Montgomery, Blair, Schuylkill, Chester, and Washington Counties. After being read, either in substance or by abstract, the reports were referred to the Committee of Publication.

The Treasurer, Dr. R. P. Thomas, presented a report, which, after being audited, was pronounced correct, and adopted.

Dr. Atlee, on behalf of the Medical Profession of Lancaster, invited the Society to hold its next annual Convention in that city.

A report was received from Dr. John Bell, of Philadelphia, Chairman of the Committee, appointed in 1856, to memorialize the city authorities upon the importance of a more efficient system of public vaccination. On motion of Drs. Atlee and Mayburry, the subject of the report was referred to a Committee, consisting of one member from each County represented in this Convention; with authority to memorialize the State Legislature, in favor of the enactment of laws providing for general vaccination throughout the State.

The Committee appointed to address the Legislature in regard to printing the Transactions of the State Medical Society, was, by request, continued.

Dr. H. Carpenter, of Lancaster, read a report on the subject of vaccination and the vaccine virus; which was referred to the Committee of Publication. An interesting discussion ensued upon the subject of this report; in the course of which, Dr. Atlee, of Lancaster, related a case in which small-pox had occurred twice in the same child, under two years of age.

On motion of Dr. Carpenter, the appointment of Drs. Emerson and Condie, of Philadelphia, as a Committee to procure vaccine virus fresh from the cow, was renewed and continued.

Dr Biddle, of Philadelphia, on behalf of the Committee to which were referred the Resolutions of the Berks County Agricultural Society, in regard to the adulteration of drugs, reported that the subject had been taken in charge by the Pharmaceutical Convention; and moved, that the Committee be continued; which was agreed to.

The Committee appointed, last year, to confer, if desired, with officers of Insurance Companies, upon the subject of Vital Statistics, was continued.

The report of the Committee appointed to consider the propriety of issuing a Form of Record for cases of diseases, &c., and of passing resolutions tending to compel the preservation of sanitary statistics, was read, and, after modification, adopted. On motion of Dr. J. S. Carpenter, of Pottsville, the plan of a Form of Record, proposed by Dr. H. Hartshorne, last year, was referred to the Committee of Publication, with discretionary powers.

The report of the Committee on Biographical Notices of Deceased Members was received and referred to the Committee of Publication.

The preamble and resolutions proposed by Dr. R. P. Thomas, in 1856, in regard to a proposed alteration in the times of meeting of the American Medical Association, were taken up and discussed. On motion of Dr. Biddle, they were referred to the different County Medical Societies; with a request to report to this Society next year, on this subject, and on that of the expediency of modifying the basis of representation in the American Medical Association.

The Committee on the Organization of New County Medical Societies made a brief report.

Dr. Darlington invited the members of the Society to visit the Collection of specimens of Natural History in the Westchester Cabinet of Natural Science. The invitation was accepted. An invitation was also accepted to visit the Institution of Mr. Bolmar. On Wednesday evening, the delegates were handsomely entertained at the residences of Drs. Darlington, Thomas, and Worthington.

Thursday Morning, May 28.

Dr. La Roche, President, in the chair. Reports from several County Medical Societies (already named) were received, read, and referred.

Dr. R. P. Thomas presented a report from the Committee of Publication, which was adopted and ordered to be published.

On motion of Dr. Mayburry, Dr. Atlee was desired to communicate the facts which had occurred under his notice in regard to the late epidemic at Washington, D. C. An interesting discussion followed; in which Drs. Atlee, La Roche, Jewell, Corson, Remington, J. S. Carpenter, Neill, and others participated. By request of the Society, Hon. Mr. Hickman, member of Congress for the district, being present, gave a description of the disease as it occurred in his own case. The impression had been produced in his mind that the cause of the disorder was a mineral poison.

On motion of Dr. H. Hartshorne, the subject of the mode of extension of typhoid fever was recommended to the Epidemical Committees of the County Medical Societies, for special inquiry.

The following Resolutions, proposed by Dr. H. Carpenter, of Lancaster, were adopted.

Resolved, That the members of this Society be invited to present, at each meeting, prize essays, or original communications, which shall be subjects of discussion at such meetings.

Resolved, That the President, Vice-Presidents, Corresponding Secretary, and Treasurer, be constituted a Committee, to devise a plan for the extension of medical organization through the State; and to procure the services of some active and zealous member or members, who shall, during the ensuing year, visit the different counties in which no organization exists, call a sufficient number of the members of the profession together, explain to them the importance of organization, furnish them with the necessary documents, and adopt such other measures as may tend to serve the desired object; the expense thereof to be borne by this Society.

On motion of Dr. Jewell, Dr. S. D. Gross, of Philadelphia, was invited to a seat as a member of the Convention.

A report was received from the Board of Censors, relative to the Constitution and By-Laws of Delaware County Medical Society. On motion, subsequently, the Board was requested to hold the subject of that Society under consideration, and report again next year.

Dr. A. L. Kennedy read a report from the Committee on Forms of Sanitary Reports for County Medical Societies; recommending the introduction, as additional items, of information in regard to the medical effects of indigenous plants, and of new remedies; and, of facts in surgery and obstetrics. The recommendation was adopted.

Dr. Kennedy also moved that the Committee of Meteorology be requested to report to the Society on the means by which medical practitioners may most readily determine the electrical condition and fluctuations of the atmosphere; which was agreed to.

The Nominating Committee, appointed on Wednesday, reported a list of officers of the Society for 1858; who were, thereupon, elected.

Dr. John L. Atlee, of Lancaster, was chosen President. Vice-Presidents, Drs. J. B. Biddle, of Philadelphia; Isaac Thomas, of Westchester; Hiram Corson, of Montgomery County; Boyd Emery, of Washington County.

Recording Secretaries, Drs. Septimus A. Ogier, of Chester County, and Henry Hartshorne, of Philadelphia. Corresponding Secretary, Dr. Samuel Lewis, of Philadelphia. Treasurer, Dr. R. P. Thomas, of Philadelphia.

Committee of Publication, Drs. S. L. Hollingsworth, John Neill, and Edwin Janvier, of Philadelphia.

Censors were also appointed for the 1st, 2d, 3d, 4th, 5th, and 6th districts; and eleven gentlemen were selected to represent the Society in the American Medical Association.

After the announcement of his election, Dr. Atlee was conducted to the chair, and addressed the Society with much feeling. After the passage of resolutions of thanks, to the Chester County Delegation, to the Authorities of Westchester, to the Railroad Companies, and to the retiring officers, the Convention adjourned; to meet at Lancaster, on the last Wednesday in May, 1858.

On Thursday afternoon, the members enjoyed, by invitation, a delightful excursion to the banks of the Brandywine. In the evening, they were received by the members of the Chester County Medical Society, at a public entertainment, in Cabinet Hall. On the whole, although not numerously attended, this Convention has been one of considerable interest; and will leave agreeable recollections in the minds of all who were present.

Editors' Table.

MINERAL SPRINGS.—Explain it as we may, there is great medicinal value in the use of the waters of mineral springs, both internally and externally, as a drink and for bathing. We will go farther, and assert, that in proportion as we enlarge the boundaries of therapeutics, and establish clear indications for the employment of different remedies, so shall we more readily and frequently have recourse to these waters. It is not our intention to treat the subject either methodically or in detail, in this department of our journal, where we desire to talk to our readers on a variety of topics not easily classed under the usual head of medical science and practice, rather than dissert on any subject in the commonly recognized list.

The natural history of mineral springs is itself a curious and at the same time an instructive study, bringing us, as it does, at once in relation with geology, mineralogy, chemistry, and in degree, with botany. Thus, the successive changes constituting the mineralization of water from the time that this fluid falls from the atmosphere in the shape of rain, or is condensed and precipitated as dew, on the surface of the earth, and first percolates the upper strata, and then penetrates deeper through fissures in rocks, and accumulates often in subterranean lakes, or flows as subterranean rivers, until it rises again as a spring, impregnated with the earthy and saline matters of the rocks through which it had permeated, lead us through inquiries bearing on all the above branches of natural science. The thermalization of water, the depth at which it takes place, and the permanency of its temperature, when flowing out as a thermal spring, are also questions of moment, the solution of which is mixed up with a study of the existence of the central heat of our globe, exceeding that of common incandescence, and of the vents which are found for these central fires by volcanoes, and the irregular throes of earthquakes. How water penetrating to great depths becomes vaporized, how this vapor, in some cases, in its rise becomes condensed in water, but still water of a high temperature, or how in others, it serves to heat the rocks through which the veins of water pass, so that in both instances the fluid which reaches the surface flows out as a thermal spring, are also parts of the problem. Pushing our inquiries farther in the same channel, we shall be tempted to ask, whether, by a process analogous to the distillation of water into vapor, there may not be carried on, simultaneously with the latter, and by the same agency of high heat, a sublimation of various earthy and mineral substances and their volatilization, and mixture, for the time being, with the vapor of water so as to constitute a mineral watery vapor, which when condensed would become a true mineral water. We can readily conceive how, at other times, the sublimation of mineral substances should take place separately, and that in their ascent, they should be condensed as they come into contact with the cold rocks above, and leave deposits in their fissures and canals through which water subsequently percolating becomes mineralized, and furnishes a supply for mineral springs. Nearly all the constituents of the latter have been found in the form of sublimates, such as the chloride of sodium, muriate of lime, sulphate of lime, sulphur, iron, &c.

If we inquire into the composition of the water of springs, we shall find that all have, to a greater or less extent, a mineral or saline impregnation. Both river and spring water contain quite a number of substances, both solid and gaseous. The first, among the earths, are lime, magnesia, strontium, and lithia; among the alkalies, potash, soda, and ammonia; the acids, nitric and sulphuric; the metals, iron; other separate principles, iodine, bromine, and chlorine. The gaseous additions are oxygen, nitrogen, and carbonic acid, and not unfrequently sulphuretted hydrogen. It must not be supposed, however, that all or even any considerable number of these substances, are ever found in the same spring, or, if found, the substance is, in most instances, in a barely appreciable quantity. We do not speak of the combination of these several substances, as of acids with earths, oxygen with metals, &c., in the mode of combination in which they exist in the water of the spring. In mineral springs proper, we find in addition to the above list the following substances, viz., hydrogen and carburetted hydrogen gases, boracic, crenic, fluoric, formic, hydrochloric, and phosphoric acids, manganese, zinc, arsenic, antimony, copper, tin, cobalt, titanium, and zirconium, and an organized substance, called, at first, glairine, now more generally known as baregine.

It is a curious and highly important fact, that mineral waters contain not only all the chief, but also, a large number of the secondary substances which, in their simple or compound state, make up not only the surface, but the crust of the earth. Another curious coincidence deserves to be mentioned on the present occasion. It is, that the sublimates, or substances of volcanoes converted into a gaseous and fluid state, give us nearly all the ingredients of mineral and thermal springs. In the economy of nature these latter, and especially the thermal division, perform an important part, analogous to that of volcanoes, by affording multiplied vents for the escape of various gases, and especially the carbonic acid, from the deep-seated portion of the earth's crust, and thus prevent the commotions and disruptions which still, but much more rarely than without these springs, occur in the form of earthquakes. Many thermal, and at the same time mineral springs appear to be only the condensation of vapors and gases effected in portions of fissures from volcanic vents, when the temperature becomes sufficiently lowered. In another point of view, thermal springs cannot but exert a considerable effect on the temperature of the upper strata of the earth's crust and on vegetation, by the vast reticulation which they form, and the considerable and constant evolution of heat, in their subterranean course.

We had intended to notice some of what may be called the Curiosities of Mineral Springs, such as the conversion of the snow and ice into thermal springs in volcanic districts (Iceland for example), the emergence of hot springs from beneath banks of ice, sometimes, also from the beds of rivers; the close proximity of hot and cold springs; the immense amount of saline substances in solution, given out by some mineral springs, and the extensive calcareous deposits from others; the eruption and accompanying noises by the issue of the waters of some in Iceland, St. Michael, &c.; but we must defer these until our next talk on the subject. Two instances we may, however, mention of the quantity of saline substances given out with the water of mineral springs. The first is at Carlsbad, the issue from the hot springs of which amounts, annually, to 746,884 pounds of carbonate of soda, and to 1,132,923 pounds of sulphate of soda, without reckoning the other substances which accompany these salts. The second is at Vichy, the hot springs of which give out a million of pounds of the carbonate of soda.*

PENNSYLVANIA STATE MEDICAL SOCIETY.—In another part of the Journal will be found an account of the proceedings of this Association, whose meeting we had the pleasure to attend, although not until the second day of its session. Upon our arrival, which was late in the morning, we found Dr. Worthington, of Westchester, one of the late Vice-Presidents, in the chair, his countenance beaming with intelligence and benevolence. The address of the President, Dr. La Roche, had been delivered on the previous day, and was spoken of as a chaste, beautiful, and forcible production, every way worthy of the author of the great work on yellow fever. A short time before the adjournment of the meeting, Dr. John L. Atlee, the President elect, was conducted to the chair, and, in a few feeling and pertinent remarks, took his seat. The Society may consider itself as peculiarly fortunate in having selected so able and zealous a presiding officer. Without wishing to make any invidious distinctions, we may venture to affirm that there is not a member of the Association who has evinced a deeper interest in its welfare, or taken a more active part in its deliberations. Besides, Dr. Atlee was eminently entitled to the honor by his age and by his position, as one of the most distinguished physicians of the State. From what we could learn, the meeting was characterized throughout by the most perfect harmony and good feeling.

---

* We would gladly have said something in relation to the employment, therapeutically, of the mineral springs of our own country, but are precluded from doing so by want of room. We may remind our readers, however, of the volume by Dr. Bell, on "The Mineral and Thermal Springs of the United States and Canada;" and that by Dr. Moorman on "The Virginia Springs," which with its map and plates, and the routes and distances to the various springs, and an account of the Natural Curiosities of Virginia, will be found an instructive companion to invalids and travellers in that region. Dr. Burke's book on the "Mineral Springs of Virginia," may also be consulted with advantage.

In the afternoon, after the adjournment of the meeting, the members were escorted to the neighborhood of Westchester, to view the battle-ground of the Brandywine, celebrated in history, and rendered classical as one of the most bloody scenes of the Revolution. As we rode along, over a country almost indescribably beautiful, the various places of special interest, as Osborn's Heights, Birmingham Meeting-House, the Headquarters of Genls. Washington, Howe, and Lafayette, Cheney's Fort, and the "dark and bloody field," were pointed out to us by our venerable guide, Dr. Darlington, now the oldest, as he has long been the most distinguished, citizen of Westchester. It was pleasant to listen to the "old man eloquent," as he rehearsed, with animated face and sparkling eye, some of the stirring incidents which befell our poor countrymen on that melancholy day, when the "red coats" killed three hundred of our best troops and wounded six hundred more. The afternoon's sun had sunk far below the horizon when we reached our lodgings, to prepare for the evening's entertainment, given by the Medical Society of Chester County, at "Cabinet Hall." The table was spread in beautiful taste, and the rapidity with which the various articles under which it groaned disappeared, afforded ample evidence of their appreciation. After two hours spent in agreeable and delightful intercourse with each other, and the invited guests, embracing a number of the most distinguished citizens of the place, the members retreated to their respective apartments, feeling better, if not wiser, for having been assembled together, and deeply regretting that so charming a reunion should have been so short.

Westchester is a beautiful town, situated in one of the most fertile and lovely regions of the State, and distinguished for its excellent schools, its Academy of Natural Sciences, its able and united medical faculty; and, above all, as the residence of one of the greatest botanists of the age. Who has not heard of William Darlington, the great *savant* of this charming spot, rendered famous by his botanical researches and his long citizenship? His "Flora Cestrica" has made his name familiar to all the scientific men of America and Europe. He has an immense herbarium, the result of many years' labor, and of a vast correspondence with the botanists of nearly all parts of the world. He began the study of botany early in life, and has remained faithful to it up to the present moment, having had his tastes strengthened and confirmed by Professor Benjamin Smith Barton, of the University of Pennsylvania, of which he is a graduate. Soon after he entered the profession, he served as a major in the "late war" between this country and Great Britain, and, upon quitting the army, was elected a member of Congress, in which he remained six years. After retiring to private life, he devoted himself to the practice of medicine and the exploration of the botany of Chester County, at length embodying the results of his observations in the admirable work above alluded to, and which reached its third edition in 1853.

Of the floral resources of Chester County an idea may be formed when it is stated that they are fully two-thirds as great as those of all Great Britain. Of this fact we had no idea, until we were informed of it by Dr. Darlington. This may, perhaps, in some degree, account for the wonderful success which has attended his labors in this beautiful field of nature. Another circumstance, however, which has powerfully contributed to this result, has been his own innate love of the science, and his determination to make it the great and absorbing study of his life. We cannot forbear, in concluding this brief notice of our delightful visit to West Chester, and the few pleasant hours we spent in the company of this worthy man, to quote from the preface to the last edition of his Flora, the following beautiful passage, and to express the hope that the evening of his life may be as tranquil and joyous as the morning and noon were pure, active, and useful. We can almost imagine that when he shall be called hence, the flowers of Chester will unite in a body to send him their choicest wreath to deck his brow, and a pillow of roses and honeysuckle to support his head.

"He has devoted," says the author, "the leisure hours of a number of years to the favorite employment of endeavoring to excite a taste for the study of plants, and to aid the researches of his juvenile contemporaries in that charming department of Natural Science. His efforts have been amply repaid by the gratification attending the communion of kindred spirits, and such is his delight in the pursuit that, sometimes, in his dreamy reveries, he indulges the flattering idea, that if, peradventure, his work should survive him, he may continue to be an humble auxiliary of our youthful botanists; and, in some sort, a companion of their studies, even when the flowers of *Chester* shall be blooming on his grave."

AMERICAN MEDICAL ASSOCIATION.—It will be seen by reference to the proceedings of this body that the late meeting was but poorly attended, and in the matter of reports, which, at last, is the only means by which the success of the organization can or should be judged, proved almost a failure. We urge no objection to the character of the reports, indeed we have reason to believe that some of them, and more especially the two prize essays, possess unusual merit; but what we take exception to is the fewness of their number. Of nineteen special committees appointed at the last meeting only three were ready to report; and of the twenty or thirty standing committees on Medical Topography and Epidemics, only one. In a pecuniary point of view, it may be as well that the next volume of Transactions will be small, for as the treasury depends for its supply mainly upon the assessment of the delegates, an attendance of one hundred and eighty, which, we understand, was the total number at Nashville, would hardly furnish means sufficient to print a volume one-third the size of the bulky affair that was issued last year.

There seems to be but one opinion in regard to the reception which the members met with from the profession and citizens, generally, of Nashville. In point of open, warm-hearted hospitality, and genuine refinement, the dwellers in the "City of Rocks" are unsurpassed by any community in the land; and we learn from various sources that they left nothing unthought of to minister to the comfort and luxury of the delegates.

QUARANTINE CONVENTION.—We are glad to learn that this Convention, the first of its kind in America and the second anywhere, has succeeded beyond the expectations of its friends, and may be regarded as the established commencement of a series of authoritative deliberations, which must lead to inestimable public benefit.

The increasing necessity for a more general diffusion of clear and practical ideas upon questions of public hygiene, and for the consequently better administration of health-protecting measures, is too manifest, in these days of sanitary blue-books, to need urging on the professional inquirer. The example of our transatlantic neighbors, especially as shown in the growing and richly productive efforts of our British brethren, has become too strong to be resisted by the most careless medical reader. Even among our unprofessional citizens, the waves of European agitation of the subject have reached the well-informed; while the thoughtful and benevolent of all classes of our countrymen have had their fears and sympathies aroused, by the appalling experience of recent epidemics, into an activity which needs and awaits only the requisite scientific guidance to direct it into an available channel.

Some degree of success therefore was reasonably to be looked for, and has been richly won. The manner in which the invitation for the meeting was responded to, not only does great honor to the various bodies represented, and to participants in the Convention, but secures the future interest and co-operation of many doubting or indifferent parties, whose experience and opportunities should have led them to take an earlier and more encouraging position in the van of what promises to be an unequivocal reform.

Great praise is due to Dr. Jewell, the projector of the movement; to the Philadelphia Board of Health, which so handsomely and efficiently supported him; and to the Philadelphia delegation, as a Committee of Arrangements,—for the manner in which the body was received, and enabled to organize and conduct its action so readily to something like a positive demonstration.

The superior character of the medical delegates, and the evidently high position of the unprofessional representatives, secured to the Convention a weight and respectability which the importance of the occasion and object fully demanded, but which many sinister predictions had not allowed us to anticipate.

The proceedings were characterized by a harmony and business-like steadiness of purpose and celerity of action, as well as practical learning and intelligence, which could not fail to produce some valuable and decided results.

In this respect they have effected more than we had reason to expect at the outset of such an enterprise. The report of the Business Committee affords us something considerably better than a mere inauguration of a Quarantine and Sanitary Association,—something materially beyond the mere announcement of work hereafter to be done, which was the utmost that was confidently hoped for from the primary meeting. It presents us with a great deal of important precept, as admitted after careful examination and now authoritatively expressed, for the instruction of the whole community.

This action of the Convention, the nature of the propositions mooted, the almost entire unanimity with which they were adopted, and the commanding influence of the delegates, and of the bodies represented, have already made a marked impression on the country. We doubt not that this impression will grow deeper and deeper as the official record is more generally read, and as the time for the next annual assemblage approaches. We are no less certain that the second meeting will prove a large and imposing one, although not more able or select in its composition than its predecessor; and we shall look with satisfaction for the continuance of labors well begun, which cannot fail to exercise an immediate as well as lasting influence on the interests which most nearly concern the business and bosoms of every member of the Commonwealth.

The recent announcement of the discovery of the excito-secretory subsystem of the spinal nerves by Dr. Marshall Hall, of London, has called forth a letter, and various accompanying documents, addressed to that gentleman, from Dr. Henry F. Campbell, of Augusta, Georgia, who clearly sets forth his own claims to the discovery in question. The essential portions of Dr. Campbell's communication are copied into the London Lancet (May 2,) by the request of Dr. Marshall Hall, who gracefully yields the credit of the *idea* and the *designation* of the excito-secretory action to our countryman.

COMPLIMENTARY.—The article by Dr. S. M. Bemiss, of Louisville, on "Marriages of Consanguinity," published in the first number of this journal, has been copied entire by "The Journal of Psychological Medicine and Mental Pathology," edited by Dr. Forbes Winslow, of London, a periodical which has long held the very first rank in the world among publications devoted to psychological medicine. "The Dublin Medical Free Press," also makes large extracts from the same, coupled with a complimentary notice of the valuable contributions which American physicians are making to the medical sciences.

Dr. Bemiss may now hope to have his paper noticed by some one, or more of the medical periodicals of our own country.

WHOLESALE PLAGIARISM.—It will be seen by reference to a bibliographical notice contained in this number of the Review, that an Englishman by the name of Hogg, has very quietly appropriated a large part of Dr. Wythe's deservedly popular book, entitled "The Microscopist," to the construction of a book upon a similar subject, in Great Britain.

We learn that at the recent meeting of the Army Medical Board, at New York, about twenty-five applicants presented themselves for examination, of which number five were reported to the War Department, as qualified for appointment in the Medical Staff. The following list comprises the names of the successful candidates, and of the medical schools from which they received their diplomas.

Dr. Robert Bartholomew, of Maryland, graduate of the University of Maryland; Dr. J. C. Bailey, of Pennsylvania, graduate of the Medical Department of Pennsylvania College; Dr. J. C. McKee, of New York, graduate of the University of Pennsylvania; Dr. K. Ryland, of Missouri, graduate of the Missouri Medical College; Dr. W. A. Carswell, of South Carolina, graduate of the Charleston Medical College.

We are pleased to be able to state that the Philadelphia College of Medicine, which has heretofore always held two commencements in the year, has determined hereafter, to conform to the general custom of graduating students only at the end of the winter session.

We regret to learn that Dr. Huston, Professor of Materia Medica and Therapeutics in the Jefferson Medical College, has been compelled, on account of ill-health, to resign his chair. Dr. Huston was connected with the school for eighteen years, and contributed much by his talents, learning, industry, and amiable deportment, in elevating it to the unexampled prosperity which it has so long enjoyed. In 1839 and 1840, he lectured, as we are informed, with distinguished ability, on Obstetrics, having succeeded the late Dr. Samuel McClellan. On the reorganization of the College, in 1841, he became the occupant of the chair of Materia Medica and Therapeutics, the duties of which had been ably discharged, during the past two years, by Professor Dunglison, in connection with those of the chair of Physiology, at a time when there were only six professors.

Dr. Huston carries with him, into his retirement, the best wishes of his colleagues for the speedy restoration of his health and for his future prosperity and happiness.

Prof. G. M. Newton has resigned the chair of Anatomy in the Medical College of Georgia, at Savannah, and Prof. H. F. Campbell has been transferred to the same. The professorship of Surgical, Comparative, and Microscopic Anatomy, lately held by Dr. Campbell, has been abolished.

Dr. S. G. Armor has resigned the professorship of Pathology and Clinical Medicine, in the Medical College of Ohio.

Drs. Purple and Bulkley have retired from the editorship of the New York Journal of Medicine, leaving Dr. Stephen Smith to carry on the work alone.

With all due respect to the editors of the New Orleans Hospital Gazette, the only reply that we deem proper to make to the questions propounded to us in the April number of that Journal, is the simple statement contained in the publishers' circular upon the back of the Review, that "no sectional clique or *school* influence" will be represented in its pages. We wish to have it distinctly understood that our journal is not a medical school bulletin, as the article commented upon by the New Orleans Gazette sufficiently proves.

BOSTON NOTIONS UPON THE EDITING OF BRITISH MEDICAL BOOKS BY AMERICAN PHYSICIANS.—We find in the Boston Medical and Surgical Journal (May 14), over the well-known initials of the facetious Oliver Wendell Holmes, the following sprightly paragraphs, preliminary to a notice of Todd and Bowman's "Physiological Anatomy and Physiology of Man." We take especial pleasure in quoting them, not simply because of the humor they contain, but as confirmatory testimony against the practice they so handsomely condemn.

"It is always a pleasure to receive, to read, to notice, to commend a genuine book. And such a book is this before us, which, after twelve years' waiting, has at length crowned its tardy pages with the Finis and the Index.

"It may be asked what we mean by a genuine book. Let us say, in the first place, what we do not mean. We do not mean one which is written by a teacher, because he knows he can turn an honest penny by making his class buy it. Nor one which is put together of old materials for the sake of the advertisement afforded by its title-page. Still less one which, having been so patched up by some foreign drudge, is caught at by an 'American Editor,' who having added thereto a note of interrogation in brackets, a 'Qu.? Am. Ed.,' a questionable item from a German Journal (quoted from the Periscope of a well-known Reprint)—a Preface, large-typed and double-leaded, and finally the Editorial Name, is paraded before us in that pale or peppered sheepskin which is the chosen livery of these parasites,—the acari bred by the itching palms of publishers, the guinea-worms that have so burrowed into our Medical Literature.

"A genuine book is one written by a man (*ou autre*) because he knows something worth telling that has not been told. Of twenty books or of twenty professorial lectures, possibly one may meet this definition. In all the others, the writer or speaker does not write or speak because he knows, but knows solely in order that he may write or speak. The *vis a tergo* is to the *vis a fronte* in the ratio of one to twenty. Teachers who are also authors are particularly given to be thus dragged into book-making by their position, instead of being pushed into it by the stores they have heaped up and must get rid of. It is a comfort to lift a book as heavy as this one, and to feel that every page is full of honest investigation and sound thought. It is a delight to have such a noble work without any parasitical addenda clinging to it—no pediculus in the title-page—no pulex in the shape of a teasing foot-note—no ascaris in the form of an appendix. Twelve years of labor spent by two true men, observers and thinkers, did not require twelve hours revision to fit their product for the eyes of American readers. Physiology and anatomy do not grow so much older in a fortnight, that the sheets printed in London are obsolete when they arrive at New York. A few degrees of longitude and latitude do not change the laws of life, as they do (or ought to) the laws of light in Mr. Hedgecock's quadrant."

Bi-Monthly Bibliographical Record.

AMERICAN.

Catalogue Raisonné of the Medical Library of the Pennsylvania Hospital. By Emil Fischer, M.D., Printed by order of the Board of Managers, 8vo. pp. 750. Philadelphia, 1857. T. K. & P. G. Collins. (Received from the Hospital.)

Indigenous Races of the Earth; or New Chapters of Ethnological Inquiry; including Monographs on Special Departments of Philology, Iconography, &c. &c., contributed by Alfred Maury, Francis Pulszky, and J. Aitken Meigs, M.D. Presenting fresh Investigations, Documents, and Materials. By J. C. Nott, M.D., and George R. Gliddon. 8vo. pp. 640. J. B. Lippincott & Co., Philadelphia, 1857. (Received from the Publishers.)

A Manual of Examinations upon Anatomy, Physiology, Surgery, Practice of Medicine, Chemistry, Materia Medica, Pharmacy, and Therapeutics, especially designed for Students of Medicine. By J. L. Ludlow, A.M., M.D., Fellow of the College of Physicians, &c. &c. A New Edition, thoroughly revised and much enlarged. 12mo. pp. 816. Blanchard & Lea, Philadelphia, 1857. (Received from the Publishers.)

Catalogue of Human Crania in the Collection of the Academy of Natural Sciences of Philadelphia. Based upon the Third Edition of Dr. Morton's "Catalogue of Skulls," &c. By J. Aitken Meigs, M.D., Librarian of the Academy, &c. &c. Pamphlet, pp. 112. J. B. Lippincott & Co., Philadelphia, 1857. (Received from the Author.)

The Transactions of the Academy of Science of St. Louis. With plates illustrating papers. Vol. I. Pamphlet, pp. 86. St. Louis, 1857.

Investigations, Chemical and Physiological, relative to certain American Vertebrata. By Joseph Jones, M.D., Professor of Chemistry in the Savannah Medical College. 4to. pp. 137. G. P. Putman & Co., New York, 1857. [From the Smithsonian Contributions to Knowledge.] (Received from the Author.)

Researches into the Structure and Functions of the Kidney. By C. E. Isaacs, M.D., Demonstrator of Anatomy in the University of the City of New York. Pamphlet. pp. 85. (Republished from the Transactions of the New York Academy of Medicine by S. S. & W. Wood, 1857.)

Annual Report of the Physician-in-Chief of the Marine Hospital at Quarantine, New York. Presented to the Legislature of the State of New York. Pamphlet, pp. 63, Albany, 1857.

FOREIGN.

On the Diseases of Women; including those of Pregnancy and Childbed. By Fleetwood Churchill, M.D., F.C.D., M.R.I.A., &c. &c. A New American Edition, revised by the Author. With Notes and Additions by D. Francis Condie, M.D. 8vo. pp. 768. Republished by Blanchard & Lea, Philadelphia, 1857. (Received from the Publishers.)

A Manual of the Detection of Poisons by Medico-Chemical Analysis. By Dr. Fr. Jul. Otto, Professor of Chemistry in Caroline College, Brunswick. Translated from the German, with Notes and Additions, by Wm. Elderhorst, M.D., Professor of Chemistry, Rensselaer Polytechnic Institute, Troy, N. Y. 12mo., pp. 178. H. Bailliere, New York, 1857.

The Functions and Disorders of the Reproductive Organs, in Youth, in Adult Age, and in Advanced Life, considered in their Physiological, Social, and Psychological Relations. By W. Acton. 8vo. London, 1857.

The Constitution of the Animal Creation as expressed in Structural Appendages. By G. C. Holland. 8vo. London, 1857.

The Hygienic Treatment of Pulmonary Consumption. By B. W. Richardson, M.D. 8vo. London, 1857.

Leçons sur la Physiologie et l'Anatomie Comparée de l'Homme et des Animaux, faites a la Faculté des Sciences a Paris. Tome Ier. 8vo. 1857.

Compressed Air as a Therapeutic Agent in the Cure of Consumption, Asthma, Chronic Bronchitis, and other Diseases. By A. Simpson, M.D., &c. &c. 8vo. Edinburgh, 1857.

Practical Observations on Mental and Nervous Disorders. By A. B. Maddock. 8vo. 2d edition. London, 1857.

THE

NORTH AMERICAN MEDICO-CHIRURGICAL REVIEW.

SEPTEMBER, 1857.

Analytical and Critical Reviews.

Art. I.—*Réflexions sur l'Intermittence considérée chez l'homme dans l'état de Santé et dans l'état de Maladie, &c.* Par E. Pallas, M.D., &c. Paris. 8vo.

De la Périodicité des Fièvres Intermittentes et des Causes qui la Produisent. Par M. F. M. Audouard, D.M.M. Paris. 8vo.

Des Irritations Nerveuses sous le Rapport de la Thérapeutique. Par Guerin de Mamers, D.M.P. (Ann. de la Médecine Physiologique. vol. 8, p. 475, &c.)

Des Fièvres Intermittentes sous le Rapport de l'Etiologie et de la Thérapeutique. Par Guerin de Mamers, D.M.P. (Journal des Progrès des Sc. Méd., N.S., vol. 2, p. 55, &c.)

Traité Anatomico-Pathologique des Fiévres Intermittentes Simples et Pernicieuses. Par E. M. Bailly, D.M.P. Paris. 8vo.

The theory of periodicity in its application to malarial fevers; in other words, the question of the circumstances by virtue of which the febrile paroxysms, constituting by their assemblage fever of the intermittent type, as well as the exacerbation of like excitement, forming, when separated from each other by intervals of marked though incomplete repose, remittent fever; and again, when those intervals, though returning at more or less regular periods of time, are slight or scarcely perceptible, and present themselves in the guise of pseudo-continued fever, is one of no small interest, and has attracted the attention of pathologists from an early period of our professional history.

By some writers a distinction has been drawn between periodicity and intermittence. The former is defined to be the recurrence of certain phenomena at either regular or irregular intervals, which are constantly reproduced by the renewed presence of the cause on which they originally depended; phenomena which would necessarily cease, were the same cause, or one capable of producing similar effects, never to return. By intermittence, on the other hand, is understood a succession of similar or nearly similar phenomena, regular or irregular in their periods of activity or repose, not resulting from the repetition of influences from without, but from some functional peculiarity inherent in the organs themselves.* Proper as the distinction may be in many respects in its application to physiological and pathological phenomena generally, it is doubtful whether it would serve a useful purpose in reference to the disease more particularly before us, inasmuch as though the latter does not require, for its continuance or repetition, the renewed presence of the cause on which it originally depended, yet it does arise exclusively from a functional peculiarity inherent in the organs themselves. For this and other reasons, the two terms have been very generally, and will, in the following pages be, used indiscriminately.

This phenomenon of periodicity, which occupies an important position among the distinguishing characteristics of autumnal or malarial fevers, and from the manifestation of which by these, to a greater or less extent, is founded the designation of periodical assigned to them everywhere, is certainly one of an extraordinary nature. It is one which many medical inquirers have regarded as not a little difficult of explanation, whatever be the view adopted respecting the pathology of the disease; whether we regard the latter as the effect of a malarial intoxication, or whether we admit it, as some have done, to be the result of a local derangement of some one or more particular organ or tissue, produced by the influential agency of ordinary morbific causes. For, say they, if periodic fevers depend on the alteration of the blood brought about by the absorption of a poisonous matter floating in the atmosphere, as believed by malarialists, we cannot comprehend how it comes to pass that the combination of symptoms characterizing the disease does not show itself uninterruptedly; in other words, why the fever fails to assume the continued type. Still more naturally should we anticipate this result, if the disease depended on the inflammation of some organic apparatus; inasmuch as intermittence and inflammation would seem to be antagonistic terms, the latter morbid condition being always continuous.

Without stopping to inquire how far the second of these propositions is founded in fact, and without denying the difficulty of accounting for the phenomenon in accordance with either view of the pathology of the disease, it may be stated, that the occurrence of periodicity in the fever in question, is not incompatible with a belief in either the toxical or the inflammatory origin of the disease, since other complaints undoubtedly resulting from the absorption of poisonous matter, often assume the periodic type, and others in which the existence of topical inflammation, acute or chronic, is satisfactorily made out,—in which, indeed, that morbid state is evidently the starting-point in the chain of morbid actions,—exhibit the same phenomena of periodicity as fully and conspicuously as paludal fevers themselves. The question, then, is not whether the periodicity of those fevers is compatible with any particular view we may adopt in relation to the pathology of the disease, but,—admitting the extraordinary nature of the occurrence of temporary cessation or diminution, and return and aggravation, at regular periods of time, of the febrile symptoms,—endeavor to discover the influential agencies which give rise to those effects.

---

* Cowan. Trans. of Provincial Med. and Surg. Assoc., iv, 264, 5.

Be this as it may for the present, the periodicity of intermittent fever, and to a certain extent, if not as fully, of other complaints in which the phenomenon manifests itself, does not apply to the succession of the paroxysms alone, but is extended to the periods of repose intervening between these. It shows itself in the phenomena of relapse, of crisis, and of latency. Thus, relapses generally observe a regular order in regard to the period of their occurrence. The observation is of old date. Celsus observes, that when the fever ceases, we must long bear in mind the day of the paroxysm, and on that day avoid exciting causes. In our own time, Dr. Graves, of Dublin, ascertained that a quartan ague returned, after various lengthened periods, precisely on the day and hour on which the fit would have been due had the disorder progressed uninterruptedly. Kindred observations are recorded by Lucadou, Corbin, and many others. The disposition to a recurrence on that day, and indeed at the same hour, is retained for a long time. Van Swieten, in his Commentary on the 757th Aphorism of Boerhaave, tells us of a case in which it manifested itself five months after the cessation of the fever. Strack cites several remarkable cases of the same kind, and states that neither time nor change of climate, nor the distance from the infected locality, occasions any change in the order or day of the attack. Dr. Martin, who resided many years in India, and whose work on the diseases of tropical climates is now well known, says on this subject: "When the intermittent fever has been severe and long-continued, the disposition to recurrence of the same disease seems to last for life. After a residence of ten years in England, I happened to pass three nights at the best hotel in Strasburg, at a time when ague prevailed in the garrison amongst the French soldiers who had served in Algeria, and two days after quitting that town I was seized at the accustomed hour of 11 A.M., with ague, and I was the only person of the party who was so affected." Dr. Martin, after remarking that agues which have become habitual by repetition, impart a character of periodicity to other ailments, adds, that after his return to Europe, he became subject to facial neuralgia, which came on regularly at 11 A.M., the very hour at which ague used to commence with him in India more than twenty years previously. (P. 189.)

We know that in the form of fever, which, from its constant return at stated times, after apparent convalescence, has received the name of the relapsing fever, the symptoms, after the critical sweat of the fifth or seventh day, generally return on the fourteenth; and those relapses recur not only once, but several times. Other fevers, in like manner, show a disposition to recur at stated periods. In the government of Ufa (Russia), autumnal fever, which in that section of country is very common, attacks the patient every seventh day only, and is so severe that it generally proves fatal.

We cannot enlarge on the subject in this place, and must dismiss it with referring, besides the writings of the authors already cited, to those of Werlhoff, Grimaud, Nepple, R. Jackson, Balfour, Meade, Boyle, Johnson, Goodeve, Floyd, Murray, Coolidge, Dickson, Drake, for facts more or less apposite to the question under consideration.

In both his works, on Pneumonia and Malaria, and on the Yellow Fever, Dr. La Roche, of this city, has dwelt somewhat at length on the tendency to periodicity observed in the process of latency or incubation of malarial and other toxical complaints. The result of observations made during a period of a third of a century, have inclined him to the belief, which others had entertained long before, that the process in question in autumnal fevers generally, is ordinarily governed, as regards duration, by certain definite laws, analogous to those which preside over the progress, fluctuations, and return of the same and some other diseases. The late Dr. Robert Jackson was of opinion that the aptitude to receive the morbific impression of the cause of fever more at particular periods than others, that it manifests itself more frequently about the fourteenth day after communication with an infected source, and that it is observed chiefly at septenary periods, the seventh, fourteenth, twenty-first, &c., from the time of exposure. This opinion was based upon the results of his own observations "made upon numerous bodies of men, upon healthy men placed as attendants in infected hospitals, and upon healthy soldiers sent to concentrated sources of endemic fevers." Among such the fever scarcely ever appeared before the seventh day, commonly not before the fourteenth, and in numerous instances not till the expiration of six weeks, or even two months; though the cause of disease during the time was ordinarily in great activity. A distinguished writer of our own country, Dr. Dickson, of Charleston, has, in like manner, pointed out the fact. "The apparent influence upon it (fever) of the septenary revolution is familiarly noticed in our climate, where the opportunities for observation are unfortunately distinct and frequent. Our country fever is expected to invade on or about the fourteenth day, and if the twenty-first pass without an attack, most persons consider themselves entirely safe."*

Nor has it failed to be noticed that intermittent fevers exhibit during their course a tendency to a septenary revolution, and that at those periods, either after the seventh, fourteenth, or twenty-first paroxysm, they have a disposition to terminate spontaneously. This was frequently verified in Florida, under Dr. Forry's observations, and has been noticed sufficiently often elsewhere to justify its being received in the light of a well-established fact. In remittent fever, the same tendency is noticed, the disease having a particular disposition to a favorable critical change on the seventh, fourteenth, twenty-first, and twenty-eighth day.

In reference to the cause of the phenomenon of periodicity in malarial fevers and other diseases, medical writers have, from an early period, exercised their ingenuity. So far, it is true, the results obtained towards solving this intricate question have not been of a fully satisfactory kind. Nevertheless, sufficient has been obtained, and the inquiry has elicited enough ingenuity to render the subject one of no small interest to professional inquirers. Entertaining this belief, we cannot but think that a few pages devoted to the enumeration, examination, and analysis of the principal opinions that have, at times, been suggested on the topic in question, will prove acceptable to the reader.

By some of the older writers the phenomenon is attributed to the debility or the particular disposition of the affected parts, or to the qualities of such of the four humors as were supposed to be vitiated in the complaint. To the pituitous, as being the coldest and most viscous, the longest intervals were referred. The yellow bile gave rise to a paroxysm every third day; while the melancholic humor aroused the fever every fourth day. At a somewhat later period, Sylvius attributed the phenomenon to the introduction of the pancreatic juice into the blood. Borelli thinks it owes its origin to the successive irritation of the nervous extremities, of the nerves themselves, of the brain, and of the moving fibres of the heart; the whole resulting from an acidity or acrimony developed in the nervous fluid. Reil is of opinion that the intermittence of the vital actions is linked to that observed in the whole universe, and is the expression of a general law of our existence.

---

* Elements of Med. 2d ed. p. 179.

Ackerman, Ruediger, and others, refer the exacerbations in fevers and other diseases, and the phenomenon of periodicity generally, to certain accumulations of imponderable fluids (*aura oxygenea*) in the nervous ganglia, and to their discharge therefrom at given periods. Von Hoven finds the explanation in the natural activity of our organs when they are viciously affected by disease. Willis explains the phenomenon by the periodic development of a fermentable matter in the blood, and tells us that the fever intermits because all the morbific matter is expelled by a single paroxysm, and that until new matter is formed the state of apyrexia necessarily continues. Werlhoff, in turn, finds the explanation in the periodic movements of the globe. Meade, Balfour, Jackson, Gillespie, and several other more modern writers, following in the footsteps of Galen, refer the phenomenon to lunar influence; Meade adding the alternate action of night and day, the direction of the winds, as also the agency of the equinoxes and solstices. Stalh and several more have recourse to the power of habit,—not without admitting, however, that in many instances the cause is inscrutable. Gemma discovered the cause in the inferior position of such of the organs as he supposed to be affected in periodic diseases.

"In every fever," says Cullen—whose views on the subject are not very different from those of Bryan Robinson—"in every fever in which we can distinctly observe any number of separate paroxysms, we constantly find that each paroxysm is finished in less than twenty-four hours; but as I cannot perceive anything in the cause of fevers determining this, I must presume it to depend on some general law of the animal economy. Such a law seems to be that which subjects the economy in many respects to a diurnal revolution. Whether this depends upon the original conformation of the body, or upon certain powers constantly applied to it, and inducing a habit, I cannot positively determine; but the returns of sleep and watching, of appetite and excretions, and the changes which regularly occur in the state of the pulse, show sufficiently that in the human body a diurnal revolution takes place. It is this diurnal revolution which, I suppose, determines the duration of the paroxysms of fevers; and the constant and universal limitation of these paroxysms, while no other cause of it can be assigned, renders it sufficiently probable that their duration depends upon and is determined by the revolution mentioned. And that these paroxysms are connected with that diurnal revolution appears further from this, that though the intervals of paroxysms are different in different cases, yet the times of the recession of paroxysms are generally fixed to one time of the day; so that quotidians come on in the morning, tertians at noon, and quartans in the afternoon."

On a subject of the kind, it was not to be supposed that Darwin would fail to offer an explanation or what he considered such. When—we use in part Dr. Craigie's summary—from any cause, the sensorial or nervous influence over the system is diminished, the motions of the vascular and other dependent systems are also impaired and enfeebled. During the state of quiescence or inactivity thus induced, however, sensorial power is accumulated, and as it was saved before, it now becomes excessive; and this takes place, he argues, soonest in the capillaries of the skin, which are most remote from the influence of the sensorial or nervous energy. The excessive development of sensorial power then takes place in the increasing action of the hot fit. "Now, this increased action of the system during the hot fit, by exhausting the sensorial powers of irritation and association, contributes to induce a renewal of the cold paroxysm, as the accumulation of those sensorial powers in the cold fit produces the increased action of the hot fit, which two states of the system reciprocally induce each other by a kind of libration (oscillation ?), or a *plus* and *minus* of the sensorial powers of irritation and association." Darwin further imagines that the cold fit produces a congestion of vessels in some of the organs, from which their vessels do not entirely recover in the hot fit, and hence, that every preceding cold fit must lay the foundation for a subsequent one.

Hildenbrand next attempted the explanation of this subject. He had recourse, with this view, to the periodical revolutions exhibited by cosmic phenomena, or the revolutions of the earth and moon, in other words, to Sol lunar influence. His theory, therefore, is little more than a modification of that of Meade, Balfour, and other writers, already referred to. In connection with this subject, he remarks, says Dr. Craigie, from whom we derive the reference, the periodical regularity observed by many of the phenomena of organized bodies, for instance, the alternate succession of sleep and watching, the periodical recurrence of the menstrual discharges, &c. Quotidian paroxysms, whether of intermittents or remittents, he represents to be under the influence of the daily rotation of the earth on her axis; those of the tertian, observing the first, third, fifth, and seventh days, and the quartan observing the first, fourth, and seventh, appear to correspond to lunar periods; while the duplicated and tripled tertians depend on the combination of lunar and telluric influences.

Bordeu suggested that the regularity with which the paroxysms return—often at fixed hours—might be due to the succession of organic movements, and to the greater susceptibility of action of certain essential viscera, the liver, spleen, &c, an action which may have regular periods, analogous to those of the uterus, of the salivary glands, of the generative organs in lower animals, and of other parts, with the periods of activity and repose of which we are but imperfectly acquainted.

According to Giannini, the phenomenon of intermittence is established because sensibility is considerably diminished during the sweating stage. On the increasing debility of the arterial system,—a debility capable of diminishing the circulatory movement of the blood, and of preventing the development of caloric,—depends the accession of the paroxysm, and "to the greater or less length of time which living systems require to reach the degree of debility and of depression in the calorific faculty necessary to the development of the paroxysms of intermittent fevers, must be referred the variety of their types. When this depression operates in one day, quotidian fever is the result. When two days are required, we have tertian fever; when three days are required, the disease assumes the quartan type. From this we may conclude that intermittent fevers, the type of which, in order to be developed, requires a long space of time, must be those which will retain with most force the morbid modification occasioned in the system by the course of the disease."*

Several other theories, or, perhaps more properly, hypotheses, have been offered, and deserve a passing notice. Virey, modifying the views of Stalh, attributes the effect to the influence which the circulation or rotatory movement, habitual in the human system and in that of most animals, exercises on the return of the functions. Agreeably to him, parts acquire, in a progressive manner, by the gradual flow of blood, and during a period of time regulated by habit, a certain amount of plethora and vital force. When this has reached its ultimate point, the parts are disgorged of the excess of blood, either in its pure state, or in the form of secretions, or some other such means, or else the nervous excitant is consumed or exhausted after manifesting itself in the form of pain or febrile irritation. Hence, the occurrence of periodic paroxysms of fever constituting periodic fever. Periodicity, therefore, according to this theory, "consists solely in the effect of the accumulation of certain morbific causes or of secreted fluids, which determine a relaxation, a discharge, a paroxysm, at certain periods more or less distant from each other, and more or less regular. In the same way the rhythm and the return of sounds relieves and sustains the strength in all operations of some duration, because it establishes intermissions or periodic reposes, which enable our faculties to rest and to recuperate their wasted strength. It is thus, also, that the quotidian returns of day and night, and of the waking state and sleep, preserve our existence, and renew continuously the play of our functions."†

Bailly, in his important and truly valuable work on Intermittent Fevers, calling attention to what he represents as well-established facts, that the lower animals are not subject to intermittent fever, and that, while in malarious regions and during epidemics of periodic fevers, the human species suffers from the disease, the other experiences the effect in a different way, endeavors to explain the circumstance, and to account for the periodical character of the morbid phenomena in the former species, and its absence in the latter, by a reference to the nature of their respective positions. The constantly horizontal position of the lower animals, compared to that of human beings, which varies and alternates regularly night and morning from the vertical to the horizontal, must, as he confidently infers, exercise a marked influence in the development of the phenomenon in question. Thus, in reference to man, every morning, on his assuming the erect position, the circulation undergoes a change; the nervous system of the abdominal organs is excited into activity; the gastric organs are more highly stimulated, their functions are performed more energetically; in a word, they become the centre, starting-point, or focus of vital movements. Hence, all diseases which have their seat in these organs exhibit a morning exacerbation. In the evening, on the contrary, when man assumes the horizontal position, his brain becomes the centre of the vital movements, blood flows into it in greater abundance, and circulates through it with more activity. Hence, the paroxysms of diseases located in that organ occur at this time.

---

* Giannini, Della Natura della Febbri, i, 116, 117.

† Dict. des Sc. Med. lx. 428–9.

The morning excitation of the abdominal nervous system, and the evening excitation of that of the brain, constitute, in this view, two natural phases of a physiological function which is scarcely perceived in health, simply because it is habitual. When, however, from the operation of special causes, such, for example, as paludal exhalations, a greater degree of activity is imparted to this function, the result will be, that the morbid excitation produced in the abdominal organs will assume an intermittent character. "An intermittent fever is, therefore, the exaggeration of the combination of organic acts constituting a nycthemeron, and which take place in the following ways: 1st. Morning congestion of the stomach and intestines; 2d. Augmentation of the different nervous influences which are exercised on the whole economy, and which, according to the particular disposition of the individual, and to the causes above specified, give rise to a particular nervous symptom rather than to another; 3d. Cessation of the congestion by the horizontal position."*

M. Roche, a distinguished pupil of the School of Broussais, has set forth an hypothesis of a different kind. He thinks, 1st, that irritations which exhibit the intermittent character, are always prepared by causes the action of which is also intermittent; 2d, that the development of these irritations is favored in some organs by the intermittence of their functions; 3d, that they are almost always produced or excited into being by intermittent causes; 4th, that sometimes the persistence of these causes, sometimes the influence of habit, and often both of these agencies combined, tend to keep up those irritations; 5th, that intermittent irritations which are not due to the preceding causes, derive their periodical character from some accompanying circumstances. According to this writer, the predisposing causes of intermittent irritations are always themselves of an intermittent character. "Thus, spring and autumn are the periods of the year during which those affections are most frequently developed, and the character common to those two seasons, is to present a considerable difference between the temperature of day and that of night. These alternations of cold and heat keep up in the economy a continual alternation of action and reaction; hence the establishment of intermittence. Now, if in an individual thus modified, a stimulus happens to act on one or other of the organs, especially if the function of the organ is subjected, in the state of health, to the law of periodicity, the lesion will become intermittent. If to these periodic predisposing causes, is added the intermittence of the stimulus itself, there will necessarily be intermittence of the disease."*

---

* Traité Anatomico-Pathologique des Fièvres Intermittentes, &c. p. 5–32.

Such is the theory originally suggested by M. Roche. According to it, the nature of the stimulus producing the disease is a matter of no consequence. Provided the system is predisposed by the action of intermittent causes, the effect will be an intermittent irritation, and under particular circumstances, an intermittent fever properly so called. The effect will be more certain to result, if the stimulus which excites the disease into being is itself intermittent. Since the publication of his essay, the views of M. Roche have experienced important modification. He now regards intermittent fever as the result of the intoxication of the blood by miasms. Each paroxysm, according to him, represents the four phases of the phenomenon of intoxication: 1st, malaise, indicating the near approach of the morbid state; 2d, contact of the poison with the principal organs; 3d, reaction of the economy against that agent; 4th, efforts at elimination. But each paroxysm does not imply a renewal of intoxication, for we find the fever recurring again even when the patient has left the infected spot. Nevertheless, it is probable that the elimination of the miasm is not completed before a certain number of paroxysms, proportioned perhaps to the degree of saturation which the patient has undergone. It is perhaps in this series of incubations, corresponding to a series of efforts at elimination which are necessarily repeated so long as the morbid agent has not been effectually expulsed from the system, that we are to seek for the explanation of the phenomenon of intermittence. While admitting this, however, M. Roche continues to view the intermittent action of the causes, as also the power of habit as exercising the principal influence in the production of the phenomenon in question.

---

* Ann. de la Med. Physiol., i, 116, &c. 1822.

M. Guérin de Mamers, another disciple of the School of Broussais, but who, unlike many of the admirers of the great pathologist, presumed, on several occasions, to think for himself, is of opinion that the paroxysms and intermissions of periodic, as well, indeed, as the exacerbations of continued diseases, must be attributed to an extraordinary development of the nervous influence, to its concentration on a given point, and, subsequently, to its reproduction, as well as to a recurrence of transient congestions. For, according to him, the only difference which exists between complaints accompanied with simple exacerbations and those presenting complete paroxysms, consists in the circumstance, that in the former the nervous irritation is complicated with permanent vascular irritation; while in the latter it is accompanied with a vascular congestion as transitory as itself. Refusing to admit the possibility of a permanent inflammatory congestion giving rise to fever of a periodic character, he affirms, that the intermittent type is the exclusive attribute of affections of the nervous system, and that it appertains to the functions of that system. Intermittence has its real cause in the economy itself, and in a more especial manner in the nervous system. Hence it is a phenomenon of a perfectly organic, and, as a consequence, of a physiological character.

In reference more particularly to the periodicity of intermittent fever, Dr. Audouard, who claims to be the originator of the splenic doctrine of the pathology of the disease, suggests the following views. Intermittent fever, according to him, is caused by a peculiar agent, which being introduced into the body, modifies the circulation of the blood by altering the nature of that fluid. This agent is a poison endowed with more or less activity, and originating from the marshy exhalations; in other words, from the putrid decomposition in great part of vegetables, and of insects that perish in the mud. This modification of the circulation of the blood possesses a somewhat thermometric character. It is subordinate to the heat of the climate, and to the diurnal solar influence. The diurnal and nightly intermittences, accelerate or retard the action of the vascular system, and the congestions of blood are proportioned to the solar influence, modified by the idosyncrasy of the individual. The spleen, which acts as a reservoir of the blood, is the seat of this congestion, which would rise to the state of inflammation were this organ susceptible of taking on this morbid process. But from this alternate action of the heat of day and coolness of night, there arises a derangement which is in like manner alternating in regard to its phenomena; in other words, an intermittent fever. The diurnal solar influence, he continues, exercises a positive action on the economy. This action might be mathematically demonstrated, if all human conditions and constitutions were alike. In the absence of this uniformity, we may say that it is relative. If, on a given day, the malarial action has not been sufficiently active, or has not encountered an individual sufficiently excitable, to produce on him a splenic congestion of a character capable of determining a paroxysm, the latter does not take place; and during the following night, the circulation of the blood, to which the spleen contributes, being no longer under the positive influence of the sun, diminishes the congestion which had been formed in that viscus, without, however, removing it entirely. But the solar influence of the next day, adding to what remains of the congestion of the day before, carries it to the degree it must attain, in order that it may occasion the general derangement or paroxysm. From this arises a tertian fever. A similar reasoning is applicable to the other types. Thus, during the warmest and longest days, quotidians are due to a solar action capable of producing a splenic congestion of sufficient intensity to give rise to a daily fever. On the contrary, in the commencement of winter, the days being shorter and the solar heat less considerable, its action is less intense, and occasions a general derangement or paroxysm every third day.

As may be already known to most of our readers, several writers have, in imitation of Audouard, placed the seat of periodic fever in the spleen, and attributed to that organ no inconsiderable share in the production of the phenomenon of periodicity,—Piorry; F. A. Durand, of Lunel; S. Durand, of St. Aubin, &c. According to the first, who alone claims our attention on this occasion, a paroxysm of periodic fever consists in an attack of progressive neuropathy, which starts from the abdominal or thoracic plexuses,—from those of the spleen, kidneys, and genital organs particularly. This neurosis spreads successively to various points of the cerebrospinal apparatus. Starting from the nervous plexuses, it ascends towards the centres, and finally extends to the circumference. It is reproduced towards the skin, and causes chills, in the same way that we see various neuralgias, uterine and others, repeating themselves towards various points of the nervous system. 2d. Paroxysms of fever which are renewed a limited number of times, and in a periodic manner, may originate in the renal, spermatic, ovarian plexuses, &c. In such cases, the neuropathia extends from those plexuses to the splenic nerve. 3d. Periodic paroxysms,—quotidians, tertians, quartans, &c., have their true starting-points in the ramifications of the splenic plexus. 4th. Various lesions of the spleen may give rise to that neuropathia. 5th. Legitimate cases of intermittent fever most generally arise from splenemia, combined with increased volume of that organ. 6th. This lesion is most generally produced by the action of paludal miasmata. 7th. The first effect of these miasmata is a direct action on the blood, from which there results a true toxemia. 8th.

The effect of this alteration of the blood is to act on the spleen, and to cause the engorgement or hypertrophy of that organ, and as a result of this, the periodic neuropathia which characterizes an intermittent fever. 9th. In its turn this splenopathia produces a particular action on the blood, manifested by the special complexion, the general debility, and other changes noticed in individuals long affected with periodic fevers.

It must follow from this, if correct, that periodic fevers have their origin, or their cause, in the engorgement of the spleen, and that, hence, to say splenic engorgement is equivalent to saying periodic fever; and, reciprocally, to say periodic fever is equivalent to saying splenic engorgement. So intimately are the two,—engorgement and fever,—linked together, in the estimation of Piorry, that we may suppose that if man had been constructed without a spleen he would be spared all the inconveniences resulting from periodic fevers.

A writer of our own country, Dr. Clay Wallace, is of opinion that until more satisfactory data are furnished, he will assume that intermittent fever is caused by inhaling the spores of a fungus growing on decomposing organic matter; that these spores are received into the circulation and deposited on branches of the sympathetic; that the periodical development of these deposits occasions the chills and vascular reaction; that the symptoms cease when the nerves are accustomed to the foreign body, and are again renewed by another development, which, in tertians, occurs every third day, just as spores have been observed to form always on the fourth day in the fungus of muscardine.* Another writer, Dr. Wood, of this city, takes a very different view of the subject. After remarking that it is a law of our physical as well as moral nature, that excitement, even under the constant influence of stimulating agencies, cannot be long sustained at a particular point of elevation, and that the change of remission and exacerbation usually takes place once in twenty-four hours, Dr. W. states that the cause of this is probably to be found in that habit of the system acquired by the daily alternation of waking and sleeping. The excitability of the former condition being regularly diminished in the latter, a flux and reflux is established, which, though in cases of disease it may occasionally vary in the precise point of accession or decline, is still, as a general rule, experienced within the habitual limits. Upon the same principle, to a certain extent, he continues, may be explained the disposition observed in intermittent diseases to a daily return of the paroxysm. The cause of the disorder gives rise to the first paroxysm, at that period of the twenty-four hours at which, in the advance or the recession of the excitability, the system is in the most favorable condition for its action. The same condition is experienced about the same time on the following day, and the same result necessarily takes place, if the cause continue to operate. That the paroxysm should often occur every other day, and sometimes every third day, as in the tertian and quartan agues, must be referred to some unknown modification in the character of the cause, or in the properties of the system, which prevents the equilibrium of health from being disturbed on the first favorable occasion, and enables the vital resistance to triumph over the morbid influence, till, weakened by successive attacks, it is compelled at last to give way.*

---

* Boston Med. and Surg. J., Oct. 17th, 1847. Charleston J., x. 778.

From what precedes, the reader can scarcely have failed to perceive that many of the hypotheses heretofore presented on the subject before us, are little more than modifications of each other. In many cases, the authors, while aiming at originality of views, and making a display of learning and ingenuity, have rested their conclusions on bare assumptions, and appealed to facts and statements of more than doubtful authenticity. They have exhibited, besides, a great deficiency of correct physiological knowledge. That some of these theories are plausible enough, and embody, or are to a certain extent founded on, facts of undoubted truth, and of an apposite character, may be admitted; but, whether plausible or otherwise, there can be no doubt that none are calculated to be viewed as satisfactory by the well-informed and careful medical inquirer. Some, indeed, are visionary in the extreme; others may even be said to be absurd, while others again can hardly serve a greater purpose than to assist in the explanation of the phenomenon in question; while from not a few we reach the sage conclusion, that the thing is so because the Maker of our being has willed it, and it cannot be otherwise; or the phenomenon is explained by the statement of certain circumstances, which themselves are left unaccounted for. In a word, the majority of the explanations suggested,—those of Sylvius, Borelli, Reil, Ackerman, Ruediger, Willis, Stahl, Werlhoff, Darwin, Meade, Balfour, Hildenbrand, Giannini, Virey, Guérin de Mamers, Bordeu,—must be rejected completely, or noticed only as belonging to the domain of medical history, or as constituting objects of mere curiosity. They teach nothing useful. They are either based on scientific principles long since exploded, or fanciful notions which cannot stand the test of examination, or on assumptions equally difficult to make good, or again on false interpretations of well-known facts. In some instances they do little more than state the occurrence of long-observed circumstances in different terms from those in which they are usually described; or, finally, while attributing the results exclusively to the influence of certain agencies, they take no notice of other agencies of as potential a character as the former.

Nor are the views of Cullen, Bailly, Roche,—the most talked about in modern times,—free from serious objections. Cullen may have discovered a part of the truth, when he ascribed the periodicity of fever to some law of the animal economy, whereby it is subjected, in many respects, to a diurnal revolution. But he certainly did not discover the whole truth, and, after all, only stated the fact without explaining it. In a well-ordained and complete theory, it would be necessary to explain the cause of this diurnal revolution, which Cullen refuses to do, and to show how far the phenomenon in question depends upon it, and whether they are not both the effect of some other and antecedent cause. Besides, Cullen, as Dr. Watson well remarks, is much perplexed with the differences of type, and all that he can say on that point amounts to this, that as the three principal types observe, severally, a particular time of day for their accession, and as quartans and tertians are apt to become quotidians, these to pass into the state of remittents, and these last to become continued; and that as, even in the continued form, daily exacerbations and remissions are generally to be observed,—all this marks the power of diurnal revolution.

---

* A Treatise on the Practice of Medicine, i, 184. 1st Ed.

M. Bailly's theory is based, in great measure, on erroneous statements, and false physiological and pathological premises. It is not true that the constant horizontal position is a safeguard against periodical fevers, and that the latter are the attributes of human beings in consequence of their daily and frequent change of posture,—from the horizontal to the vertical. In stating, in support of his views that the lower animals are exempt from periodic fevers, M. Bailly has advanced an opinion too easily disproved to require a detailed notice in this place. Facts of an opposite kind are mentioned by Dupuy, Clichy de Janville, Leblanc, Schnurrer, Boudin, as occurring in various domestic animals,—dogs, horses, sheep, &c. The cause of the disease affects individuals who are lying down, and from sickness or other causes do not assume the erect position. The diurnal revolution marking the periodical excitement of important gastric and other organs, takes place whatever be the position in which the body is placed. It may be more marked when the body is erect, and especially when the latter is in motion; but it invariably comes on. In fact, the change of position cannot act on the nervous and circulatory functions otherwise than in a physical manner, and consequently too feebly and limitedly to change the order of the vital movements; and it is evident that the alternate excitation of the functions of the two systems of nerves is an attribute of life itself, and is linked to the primitive movements of ensemble or harmony, which regulate the action of each organ and apparatus. These movements are of too important a character to depend on the position which the individual may choose to assume.

Nor is it true, as asserted by M. Bailly, that febrile paroxysms invariably occur in the morning. It is a fact sufficiently well ascertained to require no illustration in this place, that such is not the case. Intermittents,—quotidians or tertians,—especially when complicated with gastric or gastro-hepatic irritation, almost always commence, in summer, from eight to ten in the morning. In remittents, the exacerbations occur after the hour of noon. The longer the fever continues and the less violence it presents, the more protracted the moment of attack becomes. The accession of fevers of the quartan type takes place from twelve to four o'clock; the attack, in some cases, being retarded, in others anticipated without the occurrence of any difference in the symptoms, capable of enabling us to explain or foresee the anomaly. Let it be remarked, that the abdominal nervous function spoken of by Dr. Bailly is, as has been well remarked by Dr. Nepple (288), neither tertian, double tertian, nor quartan. It is exclusively and constantly quotidian. Such being the case, it is difficult, admitting the views laid down by the former writer to be correct, to explain the diversity of types assumed by the disease. To this again it may be added, that Dr. Bailly has not attempted to apply his theory to several varieties of periodic fevers. If the human species acquires a predisposition to those ailments in consequence of gastric excitation and congestion resulting from the erect position, and while acquiring a tendency to cerebral disease, loses the other by assuming the horizontal position, it ought to follow that the lower animals, that are supposed to owe their exemption from the fevers to the latter position, which they constantly preserve, ought to be very liable to cerebral congestion,—to a constant semi-apoplectic existence. And yet we do not observe this to be the case. Finally, while malaria is supposed to act by merely exaggerating, in a pathological way, a condition of things which, in the state of health, would escape observation, and though it is only thought to be a stimulus, and to produce an intermittent fever in consequence of the gastric organs being predisposed to its morbid action, owing to the excitation produced in them by the vertical position of the body, we find that ardent spirits, ether, musc, and a variety of other stimuli, and even the paludal poison when in a state of concentration, produce disorders of a continued or pseudo-continued type.

In reference to the theory suggested by M. Roche, it may be remarked, that the causes which he regards as predisposing the organs to an intermittent action, are not more apt to produce that effect than many others. Atmospheric changes, it is true, are more frequent in the spring and latter part of winter than at any other time; but they are not more regular or periodic. Nor can we say that a great irregularity in the intermittence of the causes is capable of occasioning a regular intermittent inflammatory action. Indeed, we do not find intermittent fevers abounding at that season of the year. In winter, we are subjected to frequent and opposite changes of temperature. Most of the influential agencies to which we are exposed act in a periodic manner, as aliments, exercise, sleep, cold, heat; while the influence of malaria, though more active during the night, is, perhaps, less periodic in its action on the economy than the preceding. Besides, at that time a majority of individuals are sheltered from the influence of the poison, and if attacked, are so but seldom during the night. The temperature of autumn—August, September, and October—when fever prevails most abundantly, is less variable than stated by M. Roche. Evening may be damp, but is not everywhere cold; and, as remarked by M. Nepple, there is every reason to believe that this humidity plays a more important part in the causation of fever than the intermittence of action of the causes of the disease. Cold succeeding to heat much more frequently gives rise to local inflammation than to intermittent fever, which is much more frequently preceded by the stimulation of heat and excessive fatigue. If the intermittence of action of a morbific cause could communicate to the organic acts an analogous type, all diseases would assume that type, for there are few causes to which the speculations in which M. Roche indulges may not with equal propriety be applied.

On the other hand, M. Roche is not justified in attributing much influence to the intermittent functions of the organ upon which the stimulus must operate to produce periodic diseases. Few organs manifest a greater intermittence of function than the brain; and yet, no phenomena are less intermittent than those produced by alcohol, even when taken periodically. As to what M. Roche says in reference to the fact, that the paroxysms are repeated sometimes through the influence of habit, sometimes in consequence of the repetition of the cause, and often from the combination of both agencies, we need say little. According to him, habit consists in the tendency which all our organs manifest to repeat certain acts, though the causes from which they originally arose have ceased to operate. But habit thus defined does not explain the phenomenon. It merely expresses a fact, but it is not certain that that fact can occur in connection with febrile intermittence. In conclusion, it may be remarked, that it seems to be a very serious objection to M. Roche's theory, that the disease does not show itself, sometimes for weeks or months after the patient has been exposed to the malaria, that it occurs occasionally at a considerable distance from the infected locality, and that it is brought on by exciting causes of a diversified, though not necessarily of an intermittent kind. The theory fails also to account for the difference existing in the types of periodic fever.

But it would be vain to expect success in the investigation of the cause of the phenomenon in question. Periodicity may be regarded in the light of a primordial fact, of which we should study all the conditions without troubling ourselves with the proximate cause any more than we do with that of other modes of existence. Assuredly there is no propriety in asserting that intermittence is more inexplicable than continuity; for so long as existence itself shall continue to be an insoluble problem, no one mode of existence can be held as more inexplicable than the other. "In good philosophy we must study, collect, group together and combine facts. The imagination alone fills up the gaps; and it is that which is called to explain." Periodicity, then, is the result of the exercise of the same great law which regulates other phenomena manifested in health and disease—relapses, incubation, critical efforts, &c. The intermittent is as much a natural type as the continued. Need it be said that it characterizes many of the phenomena of health, and exhibits itself in the physiological play—both as regards progress and intensity—of many of the functions; in the processes of secretion, elimination, and calorification; in the operations of the nervous system; in muscular contraction; in the action of the heart, &c.? Intermittence, indeed, may well be viewed as an element essential to the existence of the normal actions of the economy. It does more; it adheres to these actions in their passage from the state of health to that of disease, and may, therefore, be recognized as an element of this state also. It stands, as has been said elsewhere, as an illustration of the great law of periodicity which regulates all the vital movements. Can we wonder that this law should have elicited the attention of medical and physiological observers from an early period of our science, and should not have been neglected in modern? An American writer, the late Dr. Carpenter, of New Orleans, has, among others, pointed out this manifestation of intermittence in the functions, and after showing, as Dr. Laycock had done already, that the periodicity of these is governed by a power or agency inherent in the system, and only in a secondary manner dependent upon the physical influences which surround us, properly remarks: "This principle once established, it becomes an easy matter to account for the intermittence of disease, by referring it to the persistent and controlling influence of those physiological oscillations, whose periods and intervals continue to mark and measure its stages and paroxysms. The matter of surprise and inquiries will then become, not why some diseases are intermittent in their course, but rather, why it is that all of them are not so?"

In his treatise on General Pathology, Henle enters into an examination of the subject with his accustomed ability, and adopts views, both in reference to the periodicity of health and that of disease, not very different from those to which attention has been called. All pathological symptoms, he remarks, are only the phenomena of the physiological vital process under changed conditions. So, also, rhythm in disease is nothing more than the rhythm of the normal vital process itself. This in disease may become more distinct; it may become changed, obliterated, and even disappear entirely, as, for instance, in mania and other nervous diseases, every trace of the periodic exacerbation and remission of the nervous activity is often lost between the time of sleep and waking. But in every case, there are only two causes to which the periodicity of disease is to be referred: either the noxious potency operates rhythmically, or the morbid symptom depends upon the changed function of an organ whose healthy life is periodical.

In disease, as in health, he further remarks, the accidental rhythm is, in the first place, to be distinguished from the natural. Pains and spasms excited by permanent causes, of themselves abate from time to time, because the vital power of the nerves becomes exhausted. Even in pure inflammation, and still more in the complicated, the pains appear in shocks, or increase in violence by paroxysms. Upon the same principle, tetanic and hydrophobic spasms are intermittent. Convulsions, from pathological formations which irritate the brain and spinal marrow, and from inflammation of these organs, cease when, as it is said, the irritability is consumed. The intermittent character of reflected spasms is most striking. In the common catarrh, in croup, and hooping-cough, the inflammation is indeed continual, just as when a foreign body is lodged in the air-passages, but the reflex motions, namely, the cough, appear only after longer or shorter pauses, and in paroxysms; so, also, sneezing from taking snuff, vomiting from irritation of the mucous membrane of the stomach, and colic from inflammation of the bowels. So, also, even in the healthy body, labor pains, and the contraction of the bowel and bladder, for the purpose of expelling their contents, appear in paroxysms. But even here it is very difficult exactly to distinguish the accidental from the natural rhythm; because, if we assume that a short intermission of the urgency to stool or urinate is the result of a momentary exhaustion, it will still very often happen, that this unsatisfied necessity is entirely suppressed until the time of the next normal paroxysm.

Henle, in continuation, remarks, that it has been a question much agitated, whether there are any true continued diseases. This expression, he says, is erroneous, inasmuch as even the so-called rhythmical diseases are continued, and only the symptoms are rhythmical. The expression should much rather be, Are there morbid symptoms with true *typhus continens?* They are generally allowed where there are disorganizations. But even with these, it often happens as if the formation of the morbid product ensued periodically, more rapid and more slow, or even experienced a cessation of growth, although that which is once formed never disappears again. Only the residua of disease, as scars and others, are completely stationary. On the other hand, it is denied that the continued type can be applied to any of the so-called pure functional disturbances. He says so-called, because disturbances of function without changes of matter are not supposable. This also is not entirely correct. It is true that all symptoms dependent upon the nervous system, do not continue uninterruptedly in an equal degree of violence or strength; but this kind of periodicity is accidental, an alteration of excitement and exhaustion; on this account, pains and spasms, and even febrile symptoms, always appear in remissions and excerbations, although not always with true natural periodicity. There is, on the other hand, scarcely any one symptom that has not sometimes been observed with a regular rhythm, remittent or intermittent: congestions, inflammations, hemorrhages, fluxes, and retentions, eruptions, mental diseases, and even paralysis, appear at one time more or less continuous, at another in shorter or longer pauses.

Henle remarks further, that it is a question very properly suggested, whether the exacerbations and remissions of rhythmical diseases coincide with the natural exacerbations and remissions of healthy life, and are merely the consequences of the latter; or whether the periods of arsis and thesis, in diseases, are dependent on the normal one, and are perhaps conditioned by the time when the morbific potency first exerted its influence. If the first supposition is correct, the paroxysms of the same disease must appear in all patients at the same hour of the day or night; but, if the first paroxysm is occasioned by the influence of the morbific potency, and the succeeding paroxysms, repeated in definite intervals, are repetitions of the first, then, as the period of the external influence is accidental, the time of exacerbation of the same disease is also different in different patients. In relation to this subject, he has no doubt it may be asserted that all rhythmical diseases make their exacerbation regularly at definite periods of the day; while in other diseases, on the contrary, the periods of exacerbation or of paroxysm, even though they are repeated in each individual case exactly rhythmically, are still less fixed in reference to the time of the day.

Justified, however, as we doubtless are, in referring the phenomenon of periodicity, as exhibited by the fevers under consideration, to the operation of the general law above alluded to, and willing as we must be to content ourselves with marking the effects of that law without attempting to clear the mystery by which its proximate cause is shrouded, it might still be a question worthy of examination, why some external agencies in their operation on the living system impart to the diseases they occasion this character of periodicity more than other morbid influences as potent in their action; why the same agencies, under other, or even analogous circumstances, produce effects of a different kind; why causes which ordinarily occasion complaints unmarked by the phenomenon mentioned, at times give rise to symptoms subject to periodic returns; and why the influences to which the result has been ascribed,—diurnal revolutions, the flux and reflux, increase and decrease of excitation, alternations of temperature, alternation of waking and sleeping, the power of habit, &c.,—should not more generally produce it, or why they succeed in doing so only in certain localities, and in individuals particularly predisposed to the effect from exposure to specific toxical agencies. Intermittent diseases are sometimes excited into being by causes which ordinarily give rise to complaints of a different character. While such is the case on special occasions, periodic fevers are the usual products of agents of a special kind, which, though sometimes failing to produce the effect in question, are almost certain to exhibit their power to that effect on individuals exposed to their action. Persons unexposed to those agencies experience with perfect impunity all the modifying influences mentioned, or if they sicken, suffer from diseases of a different character. In view of all these circumstances, we must infer that there is something in the true or efficient cause of periodic fevers which arouses more effectually the tendency existing in the vital movement of certain organs or tissues to assume, when morbidly impressed, the periodic character. But what that something is, how it acts to produce the effect, and why it should do so more than other agencies, are questions to which, in the present state of our knowledge, it would be impossible to give a satisfactory answer.

But, while expressing this opinion,—while maintaining that all the diurnal revolutions, all the fluxes and refluxes, increase and decrease of excitation, all the alternations of temperature, or of the sleeping and waking states, &c., cannot alone account for the phenomenon in question, and that something more is required to produce the effect, we are far from denying to these influences some co-operating agency in the matter. There is no reason to doubt that morbid organic periodicity is a nervous phenomenon. It is an attribute of the nervous system, and its manifestation in other parts of the economy is the effect of a complication or the result of a condition of those parts, imparted to them by the nervous matter entering into their composition. Whenever it is present as a pathological condition, it may be regarded as indicative of a lesion, primitive or secondary, of a portion of that system; for it is only here, in the absence of disease elsewhere, that any traces of its existence can be detected. Every one knows the close analogy, if not the identity, of character existing between neuralgic complaints, properly so called, and intermittent or malarial fevers. We are aware that all local affections of nerves present periods of quiescence and activity; that the former of those sets of complaints, scarcely less than the other, are accompanied, often at least, by shivering and a sense of cold, followed by heat and perspiration; that where intermittent fever prevails these neuralgic affections are frequent also; that individuals of a nervous temperament are most liable to that species of fevers, and that both diseases are benefited by, indeed are under the control of, the same remedial means.

To which division of the nervous system the phenomenon in question should be referred, is a question that may admit of some doubt. That periodicity is an attribute of, or is located in, the ganglionic system alone, or that it may be traced to both this and the cerebro-spinal systems, as mentioned by Brachet and others; or again, that, as we are told by Cowan and a few more, the gradual development of the former of these systems,—its early existence in the animal scale, and its close association with the necessary organic functions, would tend to the conclusion that it is not susceptible to intermittence, and that all intermittent diseases must be regarded as either primary or secondary affections of the cerebro-spinal system alone, need not form the subject of special examination in this place. It will be sufficient to remark that the phenomenon is an attribute of some portion of the nervous system, and that though periodic fevers are not at first, or indeed at any time, exclusively located in this system, yet the fact of these fevers being marked by periodic intermissions or remissions, shows that the latter is implicated in a particular manner in the chain of morbid actions constituting the disease.

All conditions of the economy, all morbific or internal agencies which are capable of affecting the nervous system, necessarily exercise some influence in furthering the manifestation of phenomena appertaining to that system. But again, we repeat, they cannot by themselves produce the effect, and many of them must rather be viewed as manifestations of the law of the economy on which the phenomenon of periodicity depends, than as influencing agents of its development. More, perhaps, is due to the power of habit, to which, as we have seen, a great part of the agency in the production of the phenomenon is ascribable. Every one is aware of the tendency observable in the animal system to reproduce certain actions, simply because they have been produced before; and to this tendency has been and may be ascribed the repetition of febrile paroxysms. An interesting experiment, performed by M. Brachet, of Lyons, on himself, shows very satisfactorily the influence of this acquired habit, and connects itself with the peculiar phenomena of periodic fever. Towards the end of October, 1822, M. Brachet took a cold bath, at midnight, for seven nights in succession, in the river Saone. On the first occasion, he remained a quarter of an hour in the water; then a full hour at a time. After each bath, he betook himself to a warm bed, and in a short time became affected with considerable heat, followed by copious perspiration, in the midst of which he fell asleep. At the end of the seven days, M. Brachet ceased to repeat this experiment; but what was his surprise at finding, on the following nights, between twelve and one o'clock, that all the phenomena of a true ague fit appeared in due order of succession. As, however, this artificial paroxysm was not very severe, and as he felt quite well during the day, with a good appetite and a healthful performance of all the functions, M. Brachet determined not to interfere with, but to observe, the result. Six times it recurred with great regularity. On the seventh night after he had omitted the baths, he was summoned towards midnight to a woman in labor, at the Red Cross. The rapidity with which he ascended to her house overheated him, and on his arrival, he kept up the heat by exposing himself to the action of a large fire. From that time the febrile phenomena ceased to recur.*

But habit alone, especially in the sense in which it is usually understood, cannot account for the effect. When a person, after exposing himself to the air of an infected locality, experiences a paroxysm of periodic fever, we can scarcely attribute the recurrence of a similar paroxysm the next day, or the day after, to the mere power of habit. Could the organs or tissues affected on the occasion of the first paroxysm, have been so rapidly habituated to the morbid impress as to take on the disease after an interval of a few hours, and to continue doing so at regular times long after? If so, how comes it that in times of general prevalence of the disease so many individuals exhibit this power of habit; while ephemeral attacks of fever, under other circumstances, fail to show evidences of that power, by not being followed by a repetition of the febrile excitement? On the other hand, a repetition of the attack—as, for example, in cases of relapses—though taking place at regular intervals, occur sometimes too long after the first, sometimes weeks or even months, to justify our referring the effect to the exercise of the power of habit. If this power is the controlling agent in ordinary cases of periodic fever, what has become of it during those long intervals? It is almost universally admitted that intermittent fevers of paludal origin are identical in nature with remittents. Now if to the power of habit we are to look for the regular and periodical recurrence of the paroxysm in the former, we must attribute to the same agency the recurrence of the exacerbation in the latter. Is this the probable explanation, in any instance, and especially in those in which the attack has come on soon after a single and momentary exposure to the paludal poison? What time have the affected organs had to become so habituated to the morbid impression, as to take on the same action after a repose of some hours? How comes it to pass, admitting habit to be the controlling agent, that in some places, and in some seasons, this power exhibits itself most frequently, if not universally, every day, then every other, or every fourth day? How is it, also, that at other places and seasons the effect is produced almost invariably every third, or every fourth, or even every seventh day? Let it not be said that in most cases this habit had already been established at the time of the opening paroxysm; inasmuch as the action of the efficient cause has already been produced several times, though without eliciting a manifestation of morbid effects, and each time has been followed by a movement of reaction. However true this may be, in some instances—and even of this we have no proof—the statement cannot apply to very many others; for in these the attack comes on too soon after exposure and too frequently without any other antecedent exposure, to justify the admission of this latent and unobserved periodic movement of reaction.

---

* Observations et Recherches sur les F. Interm.—Archives Générales de Méd. ix, 354–5.

In closing these remarks, we cannot but look with favor on the idea that morbid organic periodicity, which, as already said, is an attribute of the nervous system, and purely a nervous phenomenon, manifests itself in virtue of a sudden influx of nervous power on some irritated part, where it becomes concentrated and occasions a momentary sanguine congestion, which in its turn occasions the various phenomena of inflammation, local and general. This nervous excitement next becomes exhausted. Soon after, it again becomes restored to the extent of occasioning another state of excitement similar to the former, and continues to manifest itself with these alternations of repose, so long as the organ which constitutes the starting-point of the paroxysm continues in a morbid state; in other words, while it remains in a state of irritation, or retains the secondary impression of the paroxysm, or rather of the congestion. The parts acquire the habit of repeating the same act, because they remain in a state of stimulation which constitutes a source of attraction to the nervous influence; inasmuch as whatever be the extent of the agency of habit, it cannot be exercised without the intervention of some awakening cause. If the organs remained free from even the slightest deviation from their normal condition, and the true efficient cause of the disease were removed, that agency would not exhibit its influence. It requires for its manifestation the preservation of some degree of morbid derangement in the organ or tissue constituting the seat or starting-point of the phenomena observed. This morbid derangement may not be appreciable to the senses of even the most experienced and keenest investigator, or of the patient himself; but we are bound to conclude that it exists nevertheless. In intermittent fever, the organs affected cannot, during the short space of an ordinary intermission, return to their normal state, after suffering the shock to which they were subjected during the force of the paroxysm. If this restoration ever takes place, the occurrence must be very rare. Intermittence, as Nepple remarks, constitutes the period of repose, or, as it were, of sleep of the nervous system, during which the central organs of organic life having lost, by the fact of a violent reaction, a large share of their irritability, or, as some would say, of their nervous fluid, fall momentarily into a state of debility such as to be deprived of the power of awakening sympathetic actions in various parts of the body. It is during this period that the nervous system recuperates its suspended energies, and reacquires its normal influence, and the paroxysm is produced through the influence of the same agency which had given origin to the first; because the state of the organs in which that influence is located has not been changed. Hence, all the paroxysms may be said to be linked together, or rather, they are all successive symptoms of the same disease. 'Tis true that the latter appears to terminate at the close of each paroxysm; but it will reappear so long as the local derangement of the impaired organs is sufficiently severe to excite morbidly the nervous system, which is itself already in a state of disease.

ART. II.—*Indigenous Races of the Earth; or New Chapters of Ethnological Inquiry;* including Monographs on Special Departments of Philology, Iconography, Cranioscopy, Palæontology, Pathology, Archæology, Comparative Geography, and Natural History. Contributed by ALFRED MAURY, Bibliothécaire de l'Institut de France, etc.; FRANCIS PULSZKY, of Lubocz and Cselfalva, and J. AITKEN MEIGS, M.D., Prof. of the Institutes of Medicine in the Philadelphia College of Medicine (with Communications from Prof. JOS. LEIDY, M.D., and Prof. L. AGASSIZ, LL.D.), Presenting Fresh Investigations, Documents, and Materials. By J. C. NOTT, M.D., Mobile, Ala., and GEO. R. GLIDDON, formerly U. S. Consul at Cairo, &c. Philadelphia: J. B. Lippincott & Co. London: Trübner & Co., 1857. 4to. pp. 656.

Crania Britannica. Delineations and Descriptions of the Skulls of the Early Inhabitants of the British Islands; together with Notices of their other Remains. By JOSEPH BARNARD DAVIS, M.R.C.S. Engl., F.S.A., etc., and JOHN THURNAM, M.D., F.S.A., etc. London, 1856. Decade I. 4to.

Essai sur les Déformations Artificielles du Crane. Par L. A. GOSSE, de Genève, Docteur en Médecine, &c. Paris, 1855. 8vo. pp. 159.

Schædel, Hirn und Seele des Menschen und der Thiere nach Alter, Geschlecht und Race, dargestellt nach neuen Methoden und Untersuchungen von Emil Huschke. Jena, 1854, 4to. pp. 194.

THIS is essentially an age of specialties. In every direction brain and muscle are individualizing their efforts. With each succeeding year the labors of the artisan are becoming more and more numerous, in consequence of the increasing wants engendered by the march of civilization; while in the vast field of science, restless and indefatigable pioneers are daily discovering and exploring new paths of scientific research before untrodden and unknown.

As the cell, at once the most simple and general expression of the organic world, in pursuing its developmental career, ever departs from its general characters, and through many transitionary or embryonic forms, seeks the specific, parental type and functions; or, as the individual slowly acquires, in the course of his growth, the traits which effectually distinguish him from other individuals of the same series; so, genera and species of animals and plants appear to advance in a more or less orderly manner to a certain point of development, through various phases foreseen and provided for by certain universal, immutable, and eternal laws. Herein we recognize a remarkable and instructive parallelism between the developmental careers respectively, of the cell, the individual, and the generic or specific group to which that individual belongs. Carefully examined, this developmental progression is seen to be an evolution of the special from the general; or as Von Baer expressed it, a gradual advancement from the homogeneous to the heterogeneous. In this advancement or evolution new peculiarities of structure or condition, indicating new capabilities and functional powers, gradually arise. A part of nature himself, man, also, falls within the scope and influence of this great law of evolution. Through many and varied changes, determined by fixed organic laws, every human being ultimately attains that mental and corporeal individuality which serves effectually to discriminate him from his fellows. If, now, we remember that a society is but an aggregation of individuals, and that the institutions of a society are but the collective acts of its members, we may at once suppose that the highest special culture of which any society or nation is capable, can be attained only in obedience to laws essentially the same as those controlling individual development. And such is, indeed, the case. Comte, the miscalled Bacon of the 19th century, has, in his positive, or rather dogmatic way, formuled the law of human progress, and his formula, though not very happily expressed, is, in essence, the same as that announced by Von Baer for the animate world at large. Comte expressly declares that the "progress of the individual mind is not only an illustration, but an indirect evidence of that of the general mind;" that the point of departure of the individual and the race are the same, and that, consequently, the phases of the mind of a man correspond to the epochs of the mind of the race.

Of the specializing tendencies of the age no better proof can be found than the manner in which Ethnology, the youngest of the Sciences, is already, while yet in its infancy, splitting up into various minor branches, all of which, however, tend to one great point,—the scientific explanation of the origin, affiliations, and destiny of the human races; in a word, the philosophy of Anthropology.

Ethnology is essentially the science of the age. It is at once the youngest and most aspiring of all the sciences. Treating of man in his physiological, psychical, and social relations, it necessarily embraces some of the loftiest problems which can occupy the mind. Its beginnings or elementary principles are the termini or results of other sciences, while its generalizations assume a magnitude unknown to those of any other inquiry. The data upon which these generalizations are based are freely drawn on the one hand, from the accounts which travellers have given us of the physical and mental characters of various races of men; their traditions and superstitions, their religious observances, their laws and customs, their habits of life, their vocabularies, &c.; and on the other, from the philologist and the zoologist, who, in the quietude of their closets, investigate respectively the grammatical structure and relations of various languages, and the anatomical and physiological details of structure, form, color, constitutional peculiarities, &c., and finally from the physical geographer and the climatologist, who have diligently recorded numerous observations upon the physical aspects and the climatic conditions of the various geographical areas occupied by the races of men.

Ethnology is, to a great extent, an American science. Upon American soil representatives from various parts of the globe have congregated themselves together during the last two hundred years. Upon American soil the primitive semi-civilized Toltecan man has acted out his allotted part, and become extinct; while in their turn, tribe after tribe of their successors, the barbarous autocthones, have faded away in obedience to a mysterious and irrevocable law, which has prepared the land as it were for the reception and accommodation of the Scandinavian, the German, the Sclavonian, the Kelt of Southern Europe, the follower of Mahomet, the disciple of Confucius, and the unhappy children of Africa, who with the strange, lozenge-faced Esquimaux of our polar coast line, and the fragmentary remains of the aboriginal Red Men, have assembled together, in obedience to laws of humanitarian progress and change, to work out the problem of human destiny. Nowhere else, therefore, on the face of the globe is so favorable and so extensive an opportunity offered for investigations of this character. In no other country can be found, in such close proximity, so many typical races of men, differing from each other in physical and mental characters. The remarkable contrasts which these races afford, the peculiar results which follow their contact with each other, and the profound mystery which shrouds the origin and early history of both the Toltecan family, and the

Barbarous tribes of our continent, are subjects which most strongly attract the attention of the philosophical observer. Moreover, to American scholars ethnology is indebted for much of its advancement. Among the distinguished names of its cultivators those of Morton, Gallatin, Squier, Davis, Nott, Bartlett, Van Amringe, and others, rank deservedly high.

As the beautiful golden ornament, before it assumes its pleasing form, is severely tested by fire in the crucible of the refiner, so the sciences generally, have succeeded in establishing their great and sublime truths, only after the most determined, and in some instances the most bigoted opposition. To this statement ethnology is destined to form no exception. Like astronomy in the time of Galileo, or palæontology in the days of Bernard Palissy, or geology in those of Hutton, ethnology is at the present time *la science militant.* The unfortunate controversy now going on in relation to the unity or diversity of human origin, and the permanence of human types, constitutes the furnace in which the youthful science is slowly undergoing a fiery ordeal. It is a curious fact that the earliest, and for a long time, the only attempt to bring the unity doctrine into disrepute, was made not by the naturalists, but by a theologian,—one Peyrerius; whose daring scholastic essay upon the Pre-Adamites, aroused the indignation of both Protestant and Catholic clergy, and was, by command of the Sorbonne, publicly burned in the Place de Grève. From that day (1655) to the present, this acrimonious discussion, originating thus in the domain of the theologian, and at first debated entirely upon theological grounds, has waxed stronger and stronger, and spread so widely, that it has come at length to embrace many eminent savans, who have either directly or indirectly espoused one or other side of the quarrel, and gradually arranged themselves into two great parties: the Unitarians and Diversitarians, or, to use the language of Mr. Gliddon, the Monogenists and Polygenists. In the first, we find the names of Prichard, Latham, Wiseman, Bunsen, Johnes, Serres, De Salle, Buchez, Klee, Bachman, &c.; in the second, those of Morton, Agassiz, Hamilton, Burke, Van Amringe, Maury, Knox, Caldwell, Jacquinot, Hombron, Virey, Desmoulins, Bory de St. Vincent, Blanchard, Lucas, Berard, Broc, Giebel, Klemm, Zeune, and many others. During the discussion, much talent and very diversified learning have been brought to bear upon the obscure points of the science, in some instances with the happiest results. Nevertheless, it is an acknowledged fact, and one much to be regretted, that in the course of the controversy ethnology has been made to assume a very offensive and suspicious attitude in the eyes of the people. Popular prejudices have been skilfully appealed to, so as greatly to disparage the science and its honest and laborious cultivators. The painful details of the controversy into which the late Dr. Morton was unwillingly forced, are fresh in the minds of many. The *odium theologicum* is not to be lightly encountered. The history of science—which is the history of intellectual progression—is replete with examples illustrative of this point. In view of these facts, therefore, we are of opinion that the legitimate work of the ethnologist, at present, is to accumulate facts, carefully sifting these, and separating the true from the doubtful and the false. In this way only can the first principles of his science be determined, and a distinct and settled nomenclature be agreed upon. We are well convinced that all this must be done before ethnology can venture, with any hope of success, to take the field in offensive armor.

Such are some of the thoughts which have arisen in our mind while turning over the leaves of the bulky quarto which stands first upon the list of works at the head of this article.

This work is in fact a *Thesaurus Ethnologicus*—a huge Encyclopædia, in which various special branches of ethnology are discussed with considerable learning, and at greater or less length, by different writers, all of whom are evidently well versed in their respective studies, while some of them are already celebrated in the scientific and medical world for their laborious and brilliant researches. Our readers must not suppose, however, that this work is the result of any concerted action on the part of its contributors. On the contrary, we learn from the *Prefatory Remarks* of Mr. Gliddon, that the various chapters composing it were written in the widely-separated cities of Paris, London, Cambridge, Philadelphia, and Mobile, without any communication between the writers, some of whom appear to be strangers to each other. The authorship is divided between France, Hungary, Switzerland, England, and America; between the author of the Poissons Fossiles, the Curator and Librarian of the Academy of Natural Sciences of Philadelphia, the Librarian of the French Imperial Institute, a Hungarian Exile, a Lieutenant in the United States Navy, a Southern Physician, and last, but not least, the indefatigable projector of the work himself—formerly American Consul to Egypt, now an important attaché of the Honduras Interoceanic Railway Company.

From this statement the reader will at once perceive how heterogeneous the sources, and how cosmopolitan the character of the volume under consideration.

The first three chapters are more or less didactic in their character. They constitute so many separate and distinct memoirs devoted respectively to the languages, arts, and skulls of the different races of men. The authors of these chapters, Messrs. Maury, Pulszky, and Meigs, confine themselves to a simple narration of facts, avoiding those *quæstiones vexatæ* to which we have already referred. Dr. Meigs, indeed, in the explanatory note prefixed to his contribution, expressly disclaims all reference to these questions.

"In the treatment of my subject," says he, "you will observe that I have confined myself chiefly to a simple statement of facts, carefully and designedly abstaining from the expression of any opinion upon the prematurely, and perhaps, in the present state of our knowledge, unwisely mooted questions of the origin and primitive affiliations of man. Not a little study and reflection incline me to the belief that long years of severe and earnest research are yet necessary before we can pronounce authoritatively upon these ultimate and perplexing problems of Ethnology."

The tone of the fourth chapter is argumentative. Dr. Nott here calmly, dispassionately, and with logical precision, argues the question of human origin, adducing in support of the diversity doctrine many important and striking facts relative to acclimation. The fifth and sixth chapters are emphatically controversial. The polemical powers of Mr. Gliddon, who is acknowledged to be the boldest, most determined, and aggressive of all the "polygenistic" writers,* are here exerted to their utmost.

A careful examination of this work clearly shows that there is by no means a perfect unanimity of opinion among the authors relative to the various facts and theories discussed therein. While the latter half of the volume contends positively and boldly for the theory of various origins for the various races of men, the first almost entirely avoids the expression of an opinion upon this point, even doubting, as we have just seen, the propriety of disturbing such ultimate questions at the present time, when the light necessary for their examination is so feeble and dim. We propose, therefore, to analyze each chapter in succession, and in as much detail as our limits will admit. Justice to both contributors and authors requires this procedure. Any attempt to characterize the whole work from the facts and arguments presented in a part, must necessarily be open to the charge of ignorance and want of discrimination.

In the Prefatory Remarks, we meet with three interesting letters addressed to Mr. Gliddon. The first, from Lieutenant Habersham, contains a curious account of a race of men inhabiting a portion of the Island of Formosa, and resembling in many respects the aborigines of North America, being like them, "of large stature, fine forms, copper-colored, with high cheek-bones, heavy jaws, coarse, black hair, reaching to the shoulders, and boasting no clothing save the maro, and a light cotton cloth over the shoulders."

The second communication is from the pen of Professor Agassiz. In it, notwithstanding the many erroneously-conceived attacks made upon his paper, published in Types of Mankind, and entitled, "Sketch of the Natural Provinces of the Animal World, and their relation to the Different Types of Man;" and notwithstanding the remarkable, and as it now appears, wholly unwarranted and injudicious apology for that paper which appeared in a recent number of the *Bibliotheca Sacra,* under a signature well known to the scientific world, Professor Agassiz reiterates, in still stronger terms, the opinions uttered by him in the work above mentioned. He says:

---

* See the Canadian Journal of Industry, Science, and Art, for May, 1857, p. 209.

> "So far as their geographical distribution upon the surface of the globe is concerned, the races of man follow the same laws which obtain in the circumscription of the natural provinces of the animal kingdom. Even if this fact stood isolated, it would show how intimately the plan of the animal creation is linked with that of mankind. But this is not all: there are other features occurring among animals, which require the most careful consideration, inasmuch as they bear precisely upon the question at issue, whether mankind originated from one stock, or from several stocks, or by nations. These features, well known to every zoologist, have led to as conflicting views respecting the unity or plurality of certain types of animals, as are prevailing respecting the unity or plurality of origin of the human races. The controversy which has been carried on among zoologists, upon this point, shows that the difficulties respecting the races of men are not peculiar to the question of man, but involve the investigation of the whole animal kingdom—though, strange as it may appear, they have always been considered without the least reference to one another.
>
> "I need not extend my remarks beyond the class to which man himself belongs, in order to show how much light might be derived, for the study of the races, from a careful comparison of their peculiar characteristics with those of animals. The monkeys most nearly allied to man afford even the best examples. The orang-outans of Borneo, Java, and Sumatra, are considered by some of the most eminent zoologists as constituting only one single species. This is the opinion of Andreas Wagner, who, by universal consent, ranks as one of the highest authorities in questions relating to the natural history of mammalia; while Richard Owen, than whom no man, with the exception of our own Jeffreys Wyman, has studied more carefully the anthropoid monkeys, considers them as belonging to at least three distinct species. A comparison of the full and beautifully illustrated descriptions which Owen has published, of the skeleton and especially of the skulls of these species of orangs, with the descriptions and illustrations of the different races of man, to be found in almost every work on this subject, shows that the orangs differ from one another in the same manner as the races of man do; so much so, that, if these orangs are different species, the different races of men which inhabit the same countries, the Malays and the Negrillos, must be considered also as distinct species. This conclusion acquires still greater strength, if we extend the comparison to the long-armed monkeys, the Hylobates of the Sunda Islands and of the peninsulas of Malacca and Deckan, which extend over regions inhabited by the Telingans, the Malays, and the Negrillos; for there exists even a greater diversity of opinions among zoologists respecting the natural limits of the species of the genus Hylobates, than respecting those of the orangs, which constitute the genus Pithecus. I have already alluded, on another occasion, to the identity of color of the Malays and orangs: may we not now remember, also, a similar resemblance between some of the species of Hylobates with the Negrillos and Telingans?"

The same difficulties occur in the classification of the monkeys of South America, especially the species of the genus Cebus which is exclusively

American. In fact, all over the American continent, both South and North, excepting only the Polar regions of the latter, the variation of species and the range of their geographical distribution are remarkably extensive. Everywhere species and varieties of animals, separated by feeble lines of demarcation, are multiplied in a striking manner, and spread over an unusually large area. To this peculiarly American feature, the numerous Indian tribes who claim to be autocthones, constitute no exception, as Morton has conclusively shown.

In the third letter, Prof. Leidy directs our attention to the palæontological aspects of Ethnography; expressing, in the course of his remarks, a strong suspicion that evidence will yet be discovered of the existence of man as early as the Glacial Period. It is to be regretted that Prof. Leidy has not given us a complete essay upon the relations of Palæontology to Ethnology, instead of his present brief but highly interesting and suggestive communication. The profound attention which he has so long bestowed upon the fossil world, amply fits him for such an undertaking.

Thus much for the *Introduction* to "Indigenous Races." In Chapter I, the work fairly opens with an elaborate essay upon the distribution and classification of languages; their relations to the geographical distribution of races; and the inductions which may be drawn from these relations. M. Alfred Maury, the author of this essay, has already, through his numerous and learned philological and ethnological writings, achieved for himself an enviable transatlantic reputation. This side of the Atlantic, his scientific labors have not, as yet, received the attention which they deserve.

Unlike most of his cotemporary philologues, Maury recognizes the organic character of language, and discusses it in accordance with the well-tried methods of the naturalist. In so doing he renders philology a true auxiliary in the study of ethnology, and deprives it of much of the uncertainty with which it has hitherto been surrounded. Notwithstanding the importance claimed for philology by Prichard, Latham, and others, we have always been inclined to regard it as a science of dubious powers and results. However, in the hands of Maury, Pott, Renan, and others, constituting a new and vigorous school of naturalistic philology, the science is beginning to assume a novel and imposing aspect. With a masterly hand our author sets forth the causes and laws of the development and transformations of language. In these transformations language is seen to be not a dead product, but an animate and ever-living being, as Wilhelm Von Humboldt has expressed it,—a being which cannot remain stationary, but on the contrary develops itself, reaches maturity, sinks into old age and decrepitude, and at length dies. In this development of a language from its condition as a primitive, phonetic radical, rendering the idea or the sensation in all its simplicity and its generality, to the attainment of the most complex and artificial forms, we have another proof of the law already alluded to—the law of development from the general to the special. These complex and artificial forms vary with different races, and yet the fundamental mechanism is found to be the same in all languages, since that mechanism is dependent partly upon the nature of the mind, which is essentially the same for all mankind, and partly upon external nature, which everywhere repeats itself, and is everywhere the expression of an infinite diversity in unity. Languages undergo alteration in consequence of a continued development within themselves, and by their contact with other languages possessing different idioms. A language abounding in synthetical expressions, and compound phrases, when brought in contact with a more analytical tongue, generally loses some of its compound forms, adopting instead the simpler forms of the less advanced nations. However, we are assured by Maury, that the crossing of languages, like that of races, has really not been very deep, but that a language invaded by one more logical in its construction, either suffers merely slight or superficial alterations, or disappears entirely, without bequeathing to the tongue which follows it any inheritance but that of a few words. It would thus appear that, during their existence, languages are remarkably tenacious of their peculiar grammatical forms. This fact is admirably illustrated in the case of the Greek and German, which, though separated from the parental Sanscrit stem for more than three thousand years, have nevertheless preserved a common stock of grammar.

"If the grammatical dispossession of a language could have been wrought gradually, one ought to find some mixed phrases at the living period of those tongues that have been driven out by others. Now, such is not the case. The *Basque*, for example, foreign in origin both to French and Spanish, has indeed been altered through the adoption of a few words and a few locutions borrowed from these languages, by which it is surrounded, and, as it were, invested; but it evermore clings to the basis of its structure, the vital principle of its organism; and a Franco-Basque, or a Basco-Spanish, is not spoken, nowhere has ever been spoken. Modern Greek has appropriated many words from Turkish, no less than from Italian, as well as some expressions of both tongues; but its entire construction remains fundamentally Hellenic, notwithstanding that it belongs to the analytical period, and that the ancient Greek was still emerging from the synthetic. Again, the Persian, which is so imbued with Arabic words that writers of this language often intercalate sentences wholly Arabic in their discourses, remains, nevertheless, completely Indo-Germanic as concerns its grammar. But we have not seen that this tongue has ever associated the Persian declension with the Arabic conjugation, or yoked the Persian prepositions to Semitic affixes and suffixes. Finally, the Osmànlee Turkish, besides incorporating words of every language with which the Turks have been in contact for more than a thousand years, has purloined all its scientific nomenclature from the Arabs, most of its polite diplomatic phrases from the Persians; but, whilst fusing Semitic as well as Indo-European exotic words into its *copia verborum*, the radical structure of its so-called Tartarian [or, Turanian] grammar, no less than its original vocabulary, is still so tenaciously preserved, that a coarse Siberian *Yakut* can even now, after ages of ancestral separation, communicate his simple ideas to the intelligence of a Constantinopolitan Turko-Sybarite."

Such facts, we may observe *en passant*, militate strongly against the hypothesis of a unique primitive language, whence all others have issued.

Notwithstanding the perdurable character of languages, we are by no means justified in relying upon them, to the exclusion of anatomy and physiology, in our attempts to elucidate and solve the obscure and complex problems of Ethnology. Latham, it is true regards physical characters, as less important than philological, moral ones, while the Professor of Linguistics, at the University of Halle,* "claims for languages an ethnological character, suited to the classification of races, not less certain than the physical type and corporeal forms." He regards the idiom as a criterion even more certain perhaps than the physical constitution. Maury and Bodichon assign a higher value to physiology. The former, in an article published in the *Revue des Deux Mondes* for September, 1855, expressly declares that we are indebted to the monuments of Egypt for the demonstration of the two great historical laws that dominate over all the annals of that land, viz.: the permanence of races, and the constant mobility of tongues, beliefs, and arts—two truths which are precisely the inverse of what had been, for a long time, admitted.† Professor Agassiz is disposed to call in question the value and reliability of philological evidence, as proving genetic derivation, while Dr. Meigs, in his present contribution to craniographic science, combats the opinions of Latham, condensing in one paragraph the most cogent objections to the view of this eminent philologist.

"When we contemplate," says he, "the mutability and destructibility of languages, as abundantly exemplified in the obliteration of the Etruscan dialect by the Roman-Latin; the Celtiberian and Turdetan by the Latin and Spanish; the Syriac by Arabic; Celtic by the Latin and French; the Celtic of Britain by the Saxon and English; the Pelhevi and Zend by the Persian, and the Mauritanian by Arabic; when we reflect how the Epirotes and Siculi changed their language, without conquest or colonization, into Greek, and how the ancient Pelasgi, all the primitive inhabitants of the Peloponnesus, and many of those of Arcadia and Attica, abandoned their own language and adopted that of the Hellenes; when we behold the Negroes of St. Domingo speaking the French tongue, the Bashkirs, of Finnish origin, speaking Turkish; and when, finally, as one instance of another and significant class of facts, we call to mind how the Carelians, in consequence of certain linguistic analogies, have been classed with the Finns, though descended from an entirely different race, who, at an early period, overran the region about Lake Ladoga, we are 'disposed to believe with Humboldt,'—I am using the words of Morton—'that we shall never be able to trace the affiliation of nations by a mere comparison of languages; for this, after all, is but one of many clues by which that great problem is to be solved.' Surely anatomy and physiology—those handmaids of the zoologist—are more powerful, and, in the very nature of things, better adapted to settle the question of the unity of man, to determine whether the human family is composed of several species, or of but one species comprising many varieties. Surely the human skeleton is more enduring and less mutable than the oldest language. Instances are not wanting, as we have seen above, of a nation forgetting its own language in its admiration for the more perfect speech of another people. But, as far as I am aware, not a solitary instance can be adduced of a nation, *genealogically pure*, entirely changing its physical characters for those of another."

---

* M. A. F. Pott. Die Ungleichheit menschlicher Rassen haupsächlich vom Sprachwissenschaftlichen Standpunkte. 1856.

† See also, his recent work entitled "La Terre et L'Homme," Paris, 1857, chap. viii,—Des Langues et de leur Distribution Géographique.

In the third section of his paper, Maury proceeds to show how the languages of Europe belong to a great family, which, at an early hour, divided itself into many branches, of whose common ancestor we are ignorant, but of which we encounter in the Sanscrit the chief of one of the most ancient collateral lines; and also how a comparison of the languages of Europe has caused them to be grouped into four great classes, representing, as it were, so many sisters sprung from the same mother, but sisters who have not been called to an equality of partition. These classes or families are the Pelasgic, Shlavic, Indo-Germanic, and Celtic. The latter is the farthest removed from the Sanscritic mother tongue, both in geographical position and grammatical construction. The resemblance between the languages of Europe, affiliated as these are, in common, with idioms which, at a very remote humanitarian period, spread from the shores of the Caspian to the banks of the Ganges, is regarded by Maury as a weighty argument in favor of the Asiatic origin of most of the European races. Prior to the migration of ancient tribes from Asia, however, the Iberes or *Yonderers* appear to have occupied the soil from the Alps to the western borders of Spain. Now, the Basque or Euskarian tongue, spoken by these Iberians, in no way resembles the Indo-European idioms, as was formerly shown by M. Von Humboldt, and still more recently by M. Boudard of Beziers. It is, in fact, a polysynthetic language, which, in its organic structure, resembles the native languages of America, and indicates a very primitive intellectual state of the people who occupied Western Europe, previously to the arrival of the Indo-Europeans. But it appears, also, that the peculiarities of the Basque, its agglutination, its curious postpositions representing cases, its inability to simplify the relations of words to each other, notwithstanding its apparatus of forms, &c., all appear again among the Tartars of Central Asia, and among the Finns and the tribes generally which are scattered throughout

Northern Russia, from Finnmark, even to the extremity of the Kamtschatkan peninsula. Linguistically, the Tartar race attaches itself to the Finnish or Ugrian through the Tungusian type. The Mongolic, Mantchurian, Ugrian, and Turkish tongues, are allied to the Tchudic or Finnish, a fact which explains the resemblance between the Turkish and Hungarian languages. On the other hand, the languages spoken by the tribes of Siberia, and those employed by the races of Central Asia, differ from each other in a striking manner. We shall presently see that these conclusions of the philologist are in many respects confirmed by the craniological investigations of Dr. Meigs, recorded in the third chapter of this volume.

Iconographic Researches on Human Races and their Art constitute the subject-matter of Chapter II. This chapter is contributed by Francis Pulszky, the same gentleman, we believe, who accompanied the celebrated Kossuth, during his oratorical peregrinations through our country.

Blumenbach, the father of craniographic science, was among the earliest, if not, indeed, the first, to recognize the importance of Iconography as an auxiliary in the elucidation of the great problems of ethnology. We have in our possession a tract, published at Göttingen, in 1808, in which he distinctly alludes to it.* His unpublished lecture, delivered in Göttingen, March 19th, 1823,† and entitled "*De veterum artificium anatomiæ peritiæ laude limitanda, celebranda vero eorum in charactere gentilitio exprimendo accuratione*," was simply a recognition of the fact and nothing more. He appears never to have attempted a systematic elaboration of this idea. Prichard, in the second volume of his *Researches*, very briefly alludes to the remains of Egyptian painting and sculpture, as affording some aid to his favorite science. It was not until the publication of the *Crania Ægyptiaca* of Morton, however, that this subject was distinctly and powerfully made available. Courtet de Lisle, in his valuable and already scarce *Tableau Ethnographique du Genre Humaine*, employs the same method with discrimination and success. In *Types of Mankind* the subject was greatly enlarged upon by Messrs. Nott and Gliddon, and now in the present volume we find it receiving, at the hands of Mr. Pulszky, the attention which its importance deserves. Conceived in the highest style of critical analysis, the remarks of this gentleman are well calculated to arrest the notice of the reader. His essay we regard as the most excellent, and for its limits, the most complete attempt, with which we are acquainted, at explaining certain ethnological propositions, such as the constancy of natural types, &c., by comparing together authentic representations drawn from Egyptian, Assyrian, Persian, Greek, Etruscan, Roman, Hindoo, Chinese, and American monuments. National art, viewed in the manner here indicated, becomes an important avenue, also, to the study of intellectual philosophy; for, like laws, customs, manners, and other societary institutions, it is in fact the objective or external manifestation of the power and genius of the national or tribal mind. Inequalities in the artistic power of different nations are in fact indications of some of those mental differences, which appear to be as old as the races themselves.

---

* Specimen Historiæ Naturalis Antiquæ Artis Operibus illustratæ eaque vicissim illustrantis.

† Noticed in the Göttingen Gelehrte Anzeigen for that year.

> "Whilst it is certain that art has never flourished but among the progressive races, we shall find that nations to whom we are indebted for some of the most important discoveries, and to the highest truths revealed to mankind, are altogether deficient in art,—as, for instance, the Shemites without exception; that others, although wielding the most extensive political power, such as the Romans of old, the Scandinavian Northmen, the Anglo-Saxons, the Sclavonic races, never attained a high development of painting and sculpture, and were surpassed by the Greeks of yore, and by the Italians and Spaniards, the Germans and Dutch. History teaches us that eminence in painting and sculpture is not the result of either high mental culture or political power, and that it does not always accompany the refinement and wealth of nations. We find it growing out of a peculiar disposition of some nations, predestined as it were for art; whilst other races, living under the same social, climatic, and political conditions, never rise artistically to represent the outward world in colors or in plastic forms. And again, among the artistical nations we meet with the most remarkable differences in treating the same subjects. Some strive for the most scrupulous *reproduction* of nature, and cling to faithful imitation; others are creative, embellishing whatever they touch: some show a deep understanding and love of nature; others concentrate their power exclusively on the representation of the human body: some excel by the brilliancy and harmony of their coloring; others charm by their correctness in plastical forms: but all of them express their nationality, their peculiar relation to God, nature, and mankind, throughout their works. Therefore, even an inexperienced eye catches the difference between Egyptian and Assyrian, Indian and Chinese, Greek and Etruscan, Italian and German, French and Spanish, art: and the artistically-educated student feels no difficulty in discriminating the minute distinctions of schools, in each national art; and generally discovers any attempt at forging pictures and statues."

From the languages and arts of the various races of men, we pass on to the consideration of their cranial forms, the theme to which is devoted the whole of Chapter III. In this long and important chapter, contributed by Dr. J. Aitken Meigs, we find ourselves upon strictly scientific grounds, Ethnology being here investigated from the stand-point and after the methods of the naturalist. Dr. Meigs presents us with a comprehensive panoramic survey of the diversified cranial characteristics of the human family; a survey in which he assures us that he has had no theory to establish or defend, and has therefore carefully and impartially presented the facts as he has found them, for the most part indelibly traced upon the specimens in the celebrated Mortonian collection; a collection which he has taken much pains to arrange and classify, and of which he has recently given to the world a complete and systematic catalogue.* Dr. Meigs' contribution, we may say in passing, is marked by considerable industry and research, as shown by his frequent references to and quotations from the more important of the numerous works which constitute the literature of craniographic science.

With Buffon and Linnæus the study of man, as a science, fairly commences. Glimpses of this science may be caught in the writings of Thucydides, Herodotus, Hippocrates, Aristotle, Plato, Sallust, Cæsar, and Tacitus. Of these the Germania of Tacitus is undoubtedly the closest approximation to proper Ethnology that antiquity has furnished. Both Linnæus and Buffon directed their attention to external characters chiefly,—such as color of skin, hair, &c.; cranial characters, and the bony system they entirely overlooked, and in doing so failed to recognize the zoological relations of man. Nor was it until the publication of the *Règne Animal* of Cuvier, that these relations were clearly perceived. In 1764, Daubenton published his observations on the basis cranii and the variations in the position of the foramen magnum occipitis in different races of men. The cranium was next studied in profile by Camper, who attempted to compare national crania by their facial angles. Still more recently (1785), Sœmmerring applied the occipito-frontal arch, the horizontal periphery, and longitudinal and transverse diameters of the cranium, to demonstrate the differences between the heads of Europeans and negroes. At length, during the latter part of the 18th and the early part of the 19th centuries, appeared the *Decades Craniorum* of Blumenbach, who is justly regarded as the founder of the Comparative Craniography of the Races of Men. Passing over the theses of Gibson,† Crull,‡ and others, published about this time, we come at length to those magnificent works, the *Crania Americana* and *Crania Ægyptiaca* of Morton, the illustrious leader and founder of the American School of Ethnology. Ever since the publication of these works the scientific claims of Craniography have been generally acknowledged. The next important contribution to this science is the *Anthropologie* (the Crania Polynesiana, as it might not inaptly be called), of Dumoutier and Blanchard. In no work that we are aware of are the skull-forms of the Polynesian Islanders so well described as in the text of Blanchard, or so well illustrated as in the magnificent Atlas of Dumoutier. From the English press has just been issued the First Decade of the *Crania Britannica* of Messrs. Davis and Thurnam, at once the most recent and only elaborate addition to Craniography that has yet appeared in Great Britain. From an attentive perusal of its pages, and careful inspection of its most artistically executed lithographs of the skulls of the ancient Britons, we can safely say that it will prove an invaluable addition to the library of the student of Human Natural History. The monograph of Dr. Gosse is equally invaluable to the Ethnologist, constituting as it does, the most complete essay that has yet appeared, upon the numerous deformations of the cranium, both natural and artificial, which are encountered among the various races of men. A specialty within a specialty, so to speak, it well illustrates the rapid manner in which Craniography, yet in its infancy, and with most of its fundamental principles yet to establish, is dividing and subdividing into its detailed and special sections, while it furnishes another proof of how the special is ever evolving itself from the general.

---

* Noticed in the last number of this Journal.

† Dis. Phys. Inaug. de Forma Ossium Gentilitia, Edinburgi, 1809.

‡ Diss. Anthropologico-Medica de Cranio, ejusque ad Faciem Ratione, Groningæ, 1810.

Germany has furnished us with quite a number of excellent memoirs and monographs connected with craniology. The most recent and most important of these, as far as we are aware, is the laborious treatise of Prof. Huschke, of Jena, the admirable result of nine years of study and reflection. With the exception of an excellent paper on cranial measurements, contributed by Mr. J. S. Philips to the second part of Schoolcraft's ponderous quartos on the Aboriginal Races of America, and the chapter in Types of Mankind on the Comparative Anatomy of Races, from the pen of Dr. Nott, of Mobile, nothing has been done for Craniology on this side of the Atlantic, since the death of Dr. Morton, until the publication of the lengthy essay of Dr. Meigs on the national forms of skulls.

In the first section of this essay, Dr. Meigs, after pointing out the differences between the human cranium and that of the lower animals, assures us,

> "That among the different tribes of monkeys, as among the various races of men, there are numerous types or forms of skull; that for each of these natural groups, there is a gradation of cranial forms; that the greatest resemblances between the two groups—resemblances indicating the existence of a transitionary or connecting link as a part of nature's plan—are to be sought for in or between the lower types of each, and not between the lowest man and highest monkey, as is generally supposed; that the undeveloped crania of the Chimpanzee, Orang, and other higher types of monkeys, more closely resemble the human form than when fully evolved; that for each of the lower human types of skull, there appears to exist among the monkeys a rude representative, which seems remotely and imperfectly to anticipate the typical idea of the former, and to bear to it a certain ill-defined relation; and, lastly, that the best-formed human skull stands immensely removed from the most perfectly elaborated monkey cranium."

Some remarks on the scope, importance, and general character of Craniography, are followed by a concise history of its origin, progress and present condition. Notice is also taken of the Mortonian Collection, now permanently deposited in the Museum of the Academy, and numbering nearly 1100 skulls. Of this vast collection Dr. Meigs has availed himself freely. In the second section, typical forms of crania, their relative antiquity and permanence, true nature and value of the characters by which species and types are established, the relative value of physiology and philology as ethnological instruments of research, the methods of discriminating between typical or race-forms of crania, and those modifications of shape produced to a certain extent by age, sex, development, intermixture of races, artificial deformations, &c., the transitionary forms through which the brain and cranium pass before they attain their full and normal development, the nature of cranial sutures, and their influence upon race-forms of the cranium, the action exerted by the muscles upon these forms, and finally the power exerted by civilization in modifying these forms, are all discussed at greater or less length, according to their comparative importance.

In the third section, after a critical analysis of some of the more important attempts at cranial classification, such as those of Blumenbach, Retzius, Zeune, Prichard, and others, Dr. Meigs proceeds to pass before us in review the cranial forms of the various races of men. And here it is that the full value of the Mortonian Collection becomes apparent, for without such a collection to refer to, this portion of the paper under consideration could scarcely have been written.

According to Dr. Meigs, with very slight and insignificant variations, the pyramidal type of skull prevails along the whole American coast north of the 60th parallel, and from the Atlantic Ocean to Bhering's Straits, ranging through 140° of longitude, or over a tract of some 3500 miles. It is encountered also amidst the snowy islands of the Polar Ocean, and upon the frozen *tundras* of Siberia. This type is characterized by a long, narrow, and keel-like calvaria, while the face, in consequence of the projection of the malar bones, has a peculiar lozenge or pyramidal shape. It embraces the Eskimos of America, the Tchuktchi of Bhering's Straits, the Samoiedes of Siberia, and probably the Koriaks and Aleoutians.

The Kamtschatkans are regarded as a divergent or modified variety of the Arctic type. In the form of their skull, as well as by their language, the Yakutes of the Lena are affiliated to the Turkish family. With regard to the Laplanders we find the following paragraphs on pages 268 and 288:

> "A critical examination of three Laplander crania, and two casts, contained in the collection of Dr. Morton, and a comparison of these with a Kalmuck head and a number of Finnic skulls, convince me that the Laplander cranium should be regarded as a sub-typical form, occupying the transitionary place between the pyramidal type of the true Hyperboreans on the one hand, and the globular-headed and square-faced Mongol on the other. Just as upon the shores of Eastern Asia, we behold the Arctic form passing through the Kamtschatkan and the Southern Tungusian into the Central Asiatic type, so in the western part of the great Asio-Euro-

pean continent, we behold a similar transition through the Lapponic into the Tchudic and Scandinavian types—the most northern of the European.

"It will thus be seen that the cranial type of the Laplander belongs to a lower order than that of the Finn, and that the former race falls properly within the limits of the Arctic form, while the latter leans decidedly towards the Indo-Germanic type, finding its relation to the latter through the Sclavonian rather than the true Scandinavian types. But inferiority of form is to some extent a natural indication of priority of existence. We are thus led from cranial investigations alone to recognize the Lapps as the autocthones of Northwestern Europe, who at a very remote period have been overlaid by the encroaching Finn."

In Central Asia, a globular conformation of the skull takes the place of the long, pyramidal type of the North. To this globular-headed and square-faced type belong the Kalmucks, Kalkas, Bouriats, Kirghiz, Don Cossacks, Usbecks, Nojai Tartars, and other tribes inhabiting the heart of Asia. The skull of the Turk appears to be of a peculiar form, standing midway between that of the European and Mongol, and graduating into the European type through the skulls of the Osmanli Turks and the Tartars of the Kasan. The Turkish, Mongolian, and Tungusian crania bear to each other a general family resemblance. This physical fact to a certain extent confirms the opinion of Klaproth, that these three great nomadic races are philologically related.

"Indeed, the Tungusian tribes seem to connect the Chinese with the frozen North; for, in a modified degree, the same differences which separate the true Hyperborean from the typical Mongol, also separate the Chinese from the latter. In other words, the Chinese nation, in the form of their heads, resembles the great Inuit family more than the Mongolian. This opinion is based upon the critical examination of eleven Chinese skulls, obtained from various sources, and now comprised in the Mortonian Collection."

Of the tribes of the Trans-Gangetic or Indo-Chinese and Hindostanic Peninsulas, Dr. Meigs thus speaks:

"The Indo-Chinese nations, including the Mantchurian Tungus, or those south of the Alden, should be regarded as a distinct but closely allied type, a type bearing certain resemblances to the pyramidal form on the one hand, and the globular on the other, but positively separated from these two by certain slight but apparently constant differences. The Koreans exhibit the same type. * * * * *

"The above descriptions evidently lead to the recognition of several varieties or sub-types of cranial form in the Indo-Chinese Peninsula, some of which are more or less related to the predominating type of Central Asia, while others approximate the Malayan, and through these the Polynesian forms. Indo-China may therefore be regarded as the transitionary or debatable ground between Asia and Polynesia. * * * * *

"The Mortonian Collection contains in all forty-three crania of the Indostanic Race. Among these skulls, at least two types can be distinguished. 1st. The fair-skinned Ayras, a conquering race, speaking a Sanscrit dialect, and occupying Ayra-Varta, which extends from the Vindya to the Himalaya Mountains, and from the Bay of Bengal to the Indian Ocean, and comprises the Mahrattas, and other once powerful tribes, who have so boldly and obstinately resisted the English arms. 2d. The Bengalee, represented by thirty-five skulls. Dr. Morton considers these small-statured, feeble-minded, and timid people as an aboriginal race upon whom a foreign language has been imposed."

Asia, craniologically, graduates into Europe, not only through the Osmanlis and Khazan Tartars, but also through the races constituting the widely-spread Finnic or Tchudic family, which, at an epoch antedating the earliest records, occupied the country extending from Norway to the Yennisei, north of the 55th degree of latitude in Asia, and the 60th in Europe. Through the Affghan skull the Indostanic blends with the Semitic form. Some twenty-five pages are devoted to the consideration of the crania of Northern, Central, and Western Europe, with the following results:

> "It will thus be seen, from the foregoing observations on the crania of the races of Northern, Central, and Western Europe, that we must distinguish for these regions several distinct cranial types,—a Lapponic, a Finnic, a Norwegian, a Swedish, a Cimbric, a Germanic, an Anglo-Saxon, a Keltic, &c.; that the modern Finn represents, in all probability, the ancient Tchudic or Scythic tribes; that the Norwegian and Swedish are varieties of the same type; that the Germanic form is intermediate between the Finn and Swede; that the Anglo-Saxon skull is allied to the Swedish, its facial portion bearing, to some extent, the Finnic stamp; that the Cimbric type is very ancient (more ancient, perhaps, than any of the forms just enumerated, except the Lapponic), resembles the kumbe-kephalic, and represents a primitive humanitarian epoch; that the Keltic type, if indeed any such exists, should be regarded as a variety of the Cimbric—a low and early form; and lastly, that the various types of skull to a certain extent approach, represent, and blend with each other, in obedience to the great, and, as yet, not properly understood law of gradation, which seems to pervade and harmonize all natural forms, and in consequence, also, of the amalgamations which, within certain limits, must have accompanied the successive occupancy of this region by the races of men under consideration."

But we must hurry on. Our limits will not permit us to dwell any longer upon the various physical peculiarities and cranial forms presented by the various races of men. Let it suffice, therefore, to say that the next forty-two pages of the paper under discussion, are occupied with carefully drawn descriptions of the physical, and especially the cranial, characters of Sclavonians, Hungarians, Dacians, Wallachians, Bulgarians, Albanians, Greeks, Romans, Etruscans, Phœnicians, Circassians, Armenians, Persians, Affghans, Arabians, Assyrians, Hebrews, Egyptians, Fellahs, Copts, numerous African and American tribes, the races of Polynesia, Malays, Australians, &c. &c. The paper concludes with a cautious and impartial attempt to indicate the conclusions which appear fairly to flow from the numerous facts and arguments brought forward by the author.

"Aware of the extreme caution necessary in arriving at conclusions in so grave a study as that which has just occupied our attention through so many pages, and knowing that every erroneous inference must either directly or indirectly retard the advancement of Ethnography, I have preferred, occasionally, to suggest what appeared to me a legitimate induction, rather than to pronounce positively and authoritatively upon the facts presented. In the same cautious manner, the following propositions are placed before the reader, as more or less clearly derivable from the foregoing facts and arguments.

"1. That cranial characters constitute an enduring, natural, and therefore strictly reliable basis upon which to establish a true classification of the races of men.

"2. That the value of such characters is determined by their constancy, rather than by their magnitude.

'3. That these characters constitute, in the aggregate, typical forms of crania.

"4. That historical and monumental records, and the remains found in ossuaries, mounds, &c., indicate a remarkable persistence of these forms.

"5. That this persistence through time, as viewed from a zoological stand-point, renders it difficult, if indeed possible, to assign to the leading cranial types any other than specific values.

"6. That, in the present state of our knowledge, however, we are by no means certain that such types were primitively distinct. The historical period is too short to determine the question of *original* unity or diversity of cranial forms. Moreover, this question loses its importance in the presence of a still higher one,—the original unity or diversity of *all* organic forms.

"7. That diversity of cranial types does not *necessarily* imply diversity of origin. Neither do strong resemblances between such types infallibly indicate a common parentage. Such resemblances merely express similarity of position in the human series.

"8. That each well-marked cranial type admits of certain variations in its individual characters, which variations constitute divergent forms.

"9. That these divergent forms must not be confounded with hybrid types. Both, it is true, are produced by modifications in the mode of action of the developing principle; in the former, however, these modifications depend upon climatic conditions, in the latter they result from race-amalgamation.

"10. That reasons exist for considering some, at least, of the so-called artifical deformations as strictly natural types, representing very early humanitarian epochs.

"11. That a regular system of gradation seems to underlie and harmonize the various cranial forms of the human family.

"12. That these forms appear to be pre-represented or anticipated in the various types of skull exhibited by different genera and species of monkeys.

"13. That if we regard artificial deformations as the forced imitations of once natural types, and upon this ground admit them in our systems of classification, as some writers have done, then the perplexing gaps which seem to break the animal chain by disparting man and monkeys—the group which stands nearest to man—will, to a certain extent, be filled intelligibly.

"14. That typical forms of crania increase in number as we go from the poles to the equator.

"15. That the lower forms are found in the regions of excessive cold and excessive heat; the higher occupying the middle temperate region.

"16. That cranial forms are inseparably connected with the physics of the globe."

In Chapter IV, Dr. Nott, in his usual clear and forcible manner, investigates the subject of Acclimation; or, the comparative influence of climate, endemic and epidemic diseases, on the races of men.

Dr. Nott commences by defining climate, and dividing it into two great varieties, physical and medical. After briefly alluding to the kind and degree of influence exerted by climate, upon the Faunæ and Floræ of particular geographical regions, he proceeds to speak of man in relation to the climatic conditions which surround him, contending that in respect to these conditions each species of man must be made a separate study. "When and where," he asks, "have the people of the North become habituated to the climate of the Tropics, or those of the Tropics been able to live in the North? We have no records to show that a race of one extreme has ever been acclimated to the opposite." Only in the comparative physiology of the races of men, a great book yet to be written, can such questions and propositions find their true place and value? In the meantime the able work of Boudin,* just issued from the French press, will furnish the reader with much valuable information on these interesting topics.

In considering the climate of the tropics and adjacent regions, Dr. Nott divides medical, into non-malarial and malarial climates. Under the head of malarial climate, facts are brought forward to prove that the races of men are influenced differently, not only by the temperature of various latitudes, but by morbific agents, which, to a certain extent, are independent of mere temperature, such as the causes of marsh or yellow and typhoid fevers, cholera, plague, &c.

The subject of acclimation of the white races in tropical climates, next receives attention, and is treated in the most interesting manner. From the extensive tables of Moreau de Jonnès, from various works devoted to the consideration of the influence of tropical climates, and from the valuable statistical reports of the British Army Surgeons, Dr. Nott draws a series of facts which seem conclusively to show that the white races of men cannot be acclimated in foreign tropical regions. The loss of life which has invariably followed the attempt has been terribly great. From his own observations and from those of many physicians, Dr. Nott assures us that among the inhabitants of our Southern States there is no acclimation against the endemic fevers of the rural districts, and that those who live from generation to generation in malarial districts, become thoroughly poisoned, and exhibit the thousand protean forms of disease which spring from this insidious poison. He thinks that the so-called acclimation of negroes has been overrated, and that they never, as far as his observation extends, become proof against intermittents and their sequelæ. The malarial climates of the old world are next examined. In Italy the native population appears to be no better protected against the miasmatic poison, than it was two thousand years ago. The writings of the distinguished military physician, M. le Docteur Boudin, abound with statistics which show that in Algeria, the climate tends to the extermination of Europeans, for the yearly mortality, among the latter, instead of diminishing under acclimation has steadily increased. In view of all these facts it would seem indeed

---

* Traité de Géographie et de Statistique Médicales, 2 vols. 8vo.

> "That certain races cannot become assimilated to certain climates, though they may to other climates far removed from their original birth-place. The British soldiers and civilians enjoy even better health at the Cape Colony than in Great Britain; while the negro, in most regions out of Africa, whether within the Tropics, as in the Antilles, or out of them, as at Gibraltar, is gradually exterminated."

The attention of the reader is next directed to the influence of foreign tropical climates upon negroes, and the degree of mortality of these people in the United States. From the extensive and reliable statistics brought forward by our author, it appears that while the blacks in the United States have increased tenfold, those of the British West Indies have diminished in the proportion of five to two. Of the whole 1,700,000 and their progeny, but 660,000 remained at the date of emancipation. Since this epoch the diminution in their numbers has been going on still more rapidly. According to Dr. Dowler,* the blacks imported from Africa, everywhere beyond the limits of the Slave States of North America, tend to extinction. The Liberian experiment, the most favorable ever made, is no exception to this general statement. During thirty-two years the number of colored persons sent to Liberia amounted to 7592, which number was reduced to 6 or 7,000 at the end of that time. The black race is evidently doomed to extinction in the West Indies. At the end of the first quarter of the present century Humboldt estimated their number at 1,960,000. Mr. Macgregor, in 1847, gives the total aggregate at 1,300,000; showing a decline in the preceding quarter of a century, of 660,000. Humboldt says that the whole Archipelago of the West Indies, which now comprises 2,400,000, negroes and mulattoes, free and slaves, received from 1670 to 1825, nearly 5,000,000

---

* New Orleans Medical and Surgical Journal, September, 1856.

Africans, and he assures us that the slaves would have diminished since 1820, with great rapidity, but for the fraudulent continuation of the slave trade.

Another interesting topic discussed by our author is, the relative susceptibility of various pure and hybrid races to yellow and other fevers. Negroes are nearly exempt from yellow fever. The susceptibility of mulattoes is in direct proportion to the infusion of white blood. Mexicans and Hispano-Mexicans are infinitely more liable to yellow fever than mulattoes of any grade. According to Dr. Blair* the liability of the white races to yellow fever, as compared with the dark, is as 8·436 per cent., to ·00004. At Vera Cruz, as well as in the West Indies, the Coolies are exempt from it, while in Cuba, the Chinese are much less amenable to it than Europeans. Pure-blooded Mexicans suffer more from its effects than pure-blooded Spaniards or mixed breeds. It is also asserted that the cross-breeds of negroes and Mexicans are liable to this disease, just in proportion to the amount of blood of the latter race, contained in their veins. This holds good with the cross-breeds of whites and negroes. With few exceptions, the affinity of yellow fever for the races of men is in direct proportion to the lightness of complexion. According to Clot-Bey the reverse of this is true of the plague. "Thus in all the epidemics, the negro race suffers most; after these, the Berbers or Nubians; then the Arabs of Hedjáz and Yemen; then the Europeans; and among these especially the Maltese, Greeks, and Turks, and generally the inhabitants of South Europe."† From the ample statistics collected by Dr. La Roche, it appears that the highest rate of mortality from yellow fever, is almost invariably among the pure white races—as the Germans, Anglo-Saxons, &c.

But we can no longer follow our author through the valuable statistics which he has industriously gathered from various sources, and it must be said, cogently and learnedly used, in support of the diversity doctrine. We cannot take leave of his excellent paper, however, without presenting the following conclusions, to which he has arrived:

"1. That the earth is naturally divided into zoological realms—each possessing a climate, Fauna, and Flora, exclusively its own.

"2. That the Fauna of each realm originated in that realm, and that it has no consanguinity with other Faunas.

"3. That each realm possesses a group of human races, which, though not identical in physical and intellectual characters, are closely allied with one another, and are disconnected from all other races. We may cite, as examples, the white races of Europe, the Mongols of Asia, the blacks of Africa, and the aborigines of America.

---

* Report on the first eighteen months of the fourth Yellow Fever Epidemic of British Guiana. See Brit. & For. Med.-Chir. Review, Jan. and April, 1845.

† De la Peste, 1840, p. 7, and Coup d'Œil sur la Peste, 1851.

"4. That the types of man, belonging to these realms, antedate all human records, by thousands of years; and are as ancient as the Faunas of which each forms an original element.

"5. That the types of man are separated by specific characters, as well marked and as permanent as those which designate the species of other genera.

"6. That the climates of the earth may be divided into PHYSICAL and MEDICAL; and that each species of man, having its own physiological and pathological laws, is peculiarly affected by both climates.

"7. That no race of man can be regarded as cosmopolite; but that those races which are indigenous to latitudes intermediate between the equator and poles, approach nearer to cosmopolitism than those of the Arctic or the Torrid Zone.

"8. That the assertion, that any one race ever has, or ever can be, assimilated to all physical or all medical climates, is an hypothesis unsustained by a single historical fact, and opposed to the teachings of natural history."

The turning of a leaf confronts us next with Mr. Gliddon, who at the commencement of Chapter V, throws down the gauntlet of controversy, and proceeds at once to do battle in behalf of his peculiar "polygenistic" views. With the limits assigned us already overrun, we cannot venture, how much soever we might wish, to enter upon an analysis of this and the succeeding chapters, comprising as they do, more than one-third of the entire work. This is the less to be regretted, however, since Mr. Gliddon has been so long before the public as a writer and a lecturer, that his Ethnological views are already too well known to require any exposition in this place. It will be sufficient, therefore, briefly to say, that starting with an introductory citation from the Cosmos of Humboldt, he proceeds to carry the reader over the whole ground of dispute between those who contend for the unity, and those who maintain the diversity of human origin. Then follows a lengthy inquiry into the antiquity of man, viewed in its historical, chronological, and palæontological aspects. In the course of this inquiry Mr. Gliddon attempts to show that in America, humatile men, and humatile monkeys occupy the same palæontological zones; that whilst all such remains of man are exclusively of the American Indian type, the monkeys, called Hapale, Cebus, Callithrix, &c., are equally "terræ geniti" of this continent; and that the types or special forms both of men and monkeys, are permanent and indestructible. Finally, we are presented in Chapter VI, with a commentary upon the principal distinctions observable among the various groups of humanity, and a short essay upon the geographical distribution of the Simiæ in relation to that of some inferior types of men.

It will thus be seen, that in noticing this elaborate and truly important work, we have wielded the pen analytical rather than the pen critical. Regarding the volume as at once the most recent and most complete exponent of Ethnological science in 1857, we have sought, in justice to its authors and our readers, to present a correct account of its scope and character, rather than to single out and dwell upon its merits and defects. Its chief merit lies, not so much in the various conclusions towards which it points, as in the immense array of facts which have been gathered together from the most varied and numerous sources. From beginning to end it is characterized by great labor and research. Especially is this true of the contributions of Mr. Gliddon, whose enormous reading gives to his chapters the appearance of a comprehensive commentary upon the entire range of both the scientific and biblical literature of Ethnology. Indeed, he appears to have rendered himself thoroughly acquainted with all the Ethnological books, pamphlets, papers, reviews, discussions, &c., that have been published, while his immense correspondence with both European and American Ethnologists makes him acquainted with new facts and discoveries long before they are published to the world. Of this fact the reader will find several instances in the work under notice. To the practical student of Ethnology, therefore, the work recommends itself as an indispensable index or book of reference; to the popular reader it is a valuable exponent of the present condition and tendencies of the science; while to the historian and the statesman it offers food for the deepest reflection.

The mechanical execution of the volume reflects the highest credit upon the liberality, taste, and enterprise of its publishers. Clear, bold type, superfine paper, nine admirable lithographs, some of which are beautifully colored, one hundred and ninety woodcuts, a magnificent tinted lithographic tableau containing fifty-four human portraits, and another large tinted map showing the geographical distribution of monkeys, and certain inferor types of men, are among the attractive features, which show that the spirited publishers have, indeed, "spared neither exertion nor outlay to make the book itself worthy of the patronage bestowed upon it." No better evidence of the extent and value of this patronage can be given, than the long list of subscribers appended to the work, in which we notice the names of many who at present adorn the walks of literature and science.

ART. III.—*A Treatise on Cancer, and Its Treatment.* By J. WELDON FELL, M.D., of the University of New York. London: James Churchill. 8vo. pp. 95.

IN a treatise, so called, on cancer, consisting of but sixty-three pages of text, of which fifty-six are made up of an indifferent compilation on the varieties of the disease and their treatment—leaving only seven pages for the author to unfold his curative plan—little can be expected in the way of pathological research, and of the rationale and details of therapeutical treatment. We say therapeutical, for it is one aim of the author to show the superiority of his remedial course to the surgical one. Thirty-two pages are taken up with selected cases. Were the present treatise the work of a regular physician, and its contents a frank and willing offering made to his professional brethren, little would be left for analysis and criticism, beyond a mention of any peculiarity of treatment pursued by the author, and a comparison of it with the experience and observations of preceding and contemporary writers. But, unhappily, neither of these conditions have been observed by Dr. Fell. He went to London, and announced himself to be the possessor of a new and successful method of treating cancer: but the articles with which he worked were kept secret; so that he alone could perform the cure; and the poor sufferers from this terrible disease, in all parts of the world, were left to linger and die, except those who employed him; and how few, under the most favorable circumstances, could reach him, or be reached by him. This much for the part of mystery which he enacted. That of publicity was forced on him by what he would call a premature discovery of his remedies, or rather remedy. His fellow-men, therefore, owe him no thanks for giving *now*, the details of a treatment which they would have learned from other quarters; and which he had previously wished to make a matter of gainful trade by selling his secret to the British Government. But Parliament, which held the purse-strings, refused the offer. Dr. Fell was then taken up by the Surgical Staff of Middlesex Hospital, and one of its wards was placed under his exclusive control, for the treatment of cases of cancer.

The countenance thus given to an American empiric in London, by the surgeons of one of its hospitals, might be construed into an acknowledgment and defence of the correctness of his course. It is simply an increase of the original wrong, by a greater number becoming concerned in it. A swindler will not, we believe, be looked on with a more indulgent eye, or receive a lighter punishment, because he may have had numerous abettors at the time, and accessories after the act, who, from the moment they laid themselves open to a criminal prosecution, lost their privilege of appearing as witnesses in his favor. Their testimony, in the eye of the law, would be as worthless as his own for palliating or excusing his crime. So, also, the moral obloquy, unavoidably associated with the practice of quackery, attaches not only to the chief quack—who originated the thing—but also to the aid-quacks, who make themselves such by becoming his apologists and defenders. These persons join him both in infringing the moral code, and in conspiring against the public health.

We are sorry to be obliged to use such plain language, but the times require it. When we find some men of intelligence who would resent an insinuation against a want of fairness in their daily transactions, as well as members of the clerical profession, and worse still, members of our own, to be so purblind as not to see this matter in its true light, it is high time to determine whether there are recognized tests of sound mental vision, and whether they, or we who speak in the name of the great body of the medical profession, are looking at a phantasmagoria, instead of things in their true measure and proportion? Is their moral sense obtuse, or ours painfully acute? If falsehood, often in the very title of the quack remedies, as well as in the announcements of their general properties and composition, and of their immediate and remote effects; if deception in withholding all public knowledge, not only of their nature and composition, but also of the circumstances under which they must necessarily prove injurious; thus deluding thousands in every community into a belief of the entire safety, as well as the benefit, with which they may be used by all persons, at all times; if, we say, these be praiseworthy acts, entitled to the countenance and support of truth-loving, honest, and religious men, there is an obvious necessity for a new standard of religion, and a new code of morality, different from those which have hitherto been thought binding.

Will it be alleged that the object is so praiseworthy that some solecisms in ethics must be pardoned in the use of the means for attaining it. The plea would be invalid even if the means led, of a certainty, to the promised results. It is such a plea as would justify the poor for snatching from the rich, the hungry from the overfed, a portion of their wealth and their abundance. It would justify a man for having recourse to all kinds of fraud in order to support a large and helpless family; or a son for robbery with violence to enable him, by the proceeds, to save a mother from utter destitution and famine. But the case is not fairly stated when it is assumed, that the primary and main object of a man who makes and vends secret remedies, or pretends to a secret method of cure, is to benefit the health of his fellow-creatures. His object is to make money. He engages in a speculation for the purpose, and he uses every art, every trick, every deception, to sell his goods, a knowledge of the nature, fabric, or composition of which he withholds from his purchasers. He asks for their unlimited confidence in his assertions of the purity of his intentions, and of his wisdom, and intimate knowledge of the animal economy, and of the operation of medicines—he, a mere adventurer, who probably never read a book on these subjects, culled a simple, or performed an experiment, and who is obliged to get a hireling as unprincipled as himself, to write for publication the stuff and jargon which is to impose on the public, and to which are afterwards appended certificates of doctors of medicine, of law, and of divinity. Sometimes, and here is the greatest grievance, a physician of some education comes out as quack-in-chief, oblivious of or disregarding all ethical obligations, and the long line of examples of disinterestedness and pure benevolence on the part of medical men. Just now Dr. Fell has won for himself this hateful notoriety. But his secret is made public, and he has himself become the historian of its composition and effects. A brief notice of both will suffice, as there is neither novelty in the means employed nor success from their use to justify a more extended one.

The active article in the compound which Dr. Fell employed as a secret remedy for eighteen months, in the treatment of cancer, is Chloride of Zinc. He combined it with Sanguinaria Canadensis, and added wheat flour and water to form the whole into a paste, as in the following formula:

℞—Sanguinaria Canadensis, ℥ss vel ℥i.
Chlor. Zinci, ℥ss. vel ℥i.
Aquæ, ℥i.
Pulv. Sem. Tritic. Hibern. q. s.
Mix and form a paste the consistence of treacle.

From the prominence and priority of place which he gives to the Sanguinaria (or blood root, so called from its color), the puccoon of the Indians, the reader might be led to infer that it was the article on which the author placed the most reliance in his cancer-curing process. The narrative, detailing his first thoughts on the conditions for the removal of cancer and his vain efforts, for a while, to produce the desired effects, until he heard of a root used by the North American Indians, which he was told by traders had been given with success in this disease, is written in the usual and almost stereotyped style of nostrum-mongers and manufacturers of "Balm of Gilead," "Panacea," &c. A dream, in which the wonderful virtues of this plant was revealed, is all that is wanting to place the narrative of Dr. Fell on a par with the highest productions of quack literature. After mentioning the great activity of the Sanguinaria and its use in various diseases, he tells of his experiments with it on ulcerative surfaces, which ended in a removal of the tumor and the cure of the patient. The connection between the tumor and the ulcerated surfaces is not explained. Months were, however, required before the desired result was obtained; and the next aim of Dr. Fell was to combine various substances with it so as to hasten its action. None of these appeared to do as well as the chloride of zinc, "for with this compound large ulcerated tumors were removed in a few weeks, with comparatively little, and in many cases, no pain; at the same time obtaining, by absorption and by the internal use, all the good effects of the puccoon.

"The next object was to adapt the treatment to non-ulcerated tumors, and, as a preliminary step, the cutis was destroyed by nitric acid, and the paste applied; but it was found that the eschar, produced by such application, was so thin that it would require a long time to remove a large tumor.

"Incisions about half an inch apart were then made through the eschar, avoiding the living tissues, and the paste spread upon strips of cotton inserted into them daily; this plan succeeded admirably, and is *believed to be entirely original.*

"It was then found that, although the action of the puccoon was much assisted by the addition of the zinc, yet it was slow enough to allow its complete absorption, thereby enabling it to exert its peculiar constitutional effects, and, at the same time, removing the diseased mass in a few weeks."

We have given the sum and substance of Dr. Fell's plan of treatment of cancer, as far as his claims to originality or novelty go. The author may possibly believe in what he writes of the curative powers of the Sanguinaria in this disease, and of its being the chief active ingredient in his paste, while the chloride of zinc is but an auxiliary—an important one he admits. For ourselves, we have no hesitation in reversing the order of the relative degrees of importance of the two articles which the author lays down, and in expressing our entire belief that the chloride of zinc is the active ingredient, and the Sanguinaria but auxiliary, and that to a very limited extent. Our opinion coincides so entirely with that of one of our London contemporaries (*Med. Times and Gazette*, June 6), as will be seen in the following extract:

> "Now there are certain passages in this statement of Dr. Fell which we cannot permit to pass unchallenged. First, as to the *Sanguinaria*, we have not the slightest hesitation in expressing our conviction that the Sanguinaria has little or nothing to do with the results of the application, and that the chloride of zinc is the only active agent. The effects of the caustic, as described by the Surgeons of the Middlesex, are precisely those described by Canquoin, Maisonneuve, and others who have used the chloride of zinc in paste in France; they are precisely those observed years ago by Sir Benjamin Brodie, and more lately by Mr. Haviland and Mr. Moullin in this country; they are also very similar to those obtained by Mr. Stanley at St. Bartholomew's by the use of dilute solutions of the chloride of zinc. The Sanguinaria does not appear to be even as useful as the ranunculus and coltsfoot mixed with the arsenical paste used in the last century by Plunket and Guy. This had the effect of blistering the skin, and doing away with the necessity of cauterizing it with nitric acid after the fashion of Dr. Fell; but the Sanguinaria used in Dr. Fell's formula with the chloride of zinc, though it may possibly have some sedative or astringent action, is in all probability chiefly retained as a coloring matter, and as a drug not easily procurable in this country."

The writer farther shows, that his claim to originality in the insertion of the paste into the incisions which Dr. Fell made into the eschar, is without foundation. Mr. Justamond, in an account of the treatment of cancer, published in 1780, points out a course of proceeding identical with that recommended by Dr. Fell, as far as relates to incisions, and the introduction of the paste into them. Mr. Justamond used lunar caustic and arsenical powder, where Dr. Fell used nitric acid and chloride of zinc.

A man who has once entered on the devious road of empiricism knows not where to stop nor into how many windings he will be led; nor have others any certain standard by which to measure or anticipate the course he may pursue. In the whole narrative of the steps by which he was led to the adoption of his plan of healing cancer, as well as in his statements of the comparative effects of the ingredients, the vegetable and the mineral, there seems to us to be a design on the part of the author to mislead the professional and general public by the attribution of curative virtues to the Sanguinaria, which are neither proved nor probable. By implication he sins against truth, as, in a more open and direct manner, Dr. Martin, another of our American cancer doctors, did, some seventy years ago, by his repeatedly assuring Dr. Rush that his powder "was wholly a vegetable preparation." Said powder was composed of oxide of arsenic with the addition of some vegetable substance, as ascertained by experiments instituted for the purpose by Dr. Rush. This is a specimen, by no means an uncommon or unusual one, of the veracity of quacks when they speak of the nature and composition of their remedies. Dr. Rush, in his remarks on the use and effects of Martin's powder and of the mode of proceeding in the treatment of cancerous tumors by its compounder, says: "In these cases, where Dr. Martin used to extract cancerous or scirrhous tumors, that were not ulcerated, I have reason to believe that he always broke the skin with Spanish flies." In this feature of the treatment, we find a precedent for that by Dr. Fell, in the use of nitric acid for the same purpose. We cannot, indeed, resist a belief that he had read Dr. Rush's paper,* and turned to trading account the lessons of deception taught by Martin.

To the occasional use of other local remedies, such as the sulphuret of zinc with sanguinaria, myrtle wax, watery extract of opium, and extract of conium, and spermaceti ointment, and another ointment consisting of iodide of lead, glycerine, and spermaceti ointment, employed by Dr. Fell, it is enough for us barely to allude. On a more important branch of the subject, a change in the cancerous diathesis, by remedies acting on the constitution, he imparts no information worth noticing. His directions "for a nourishing and sustaining diet" are common-place, and the addition "of giving the puccoon in small and repeated doses," can have no other effect than keeping alive the hopes of the patients, if they are made to believe that they are using a new and powerful medicine.

We shall repeat the words of the London Lancet (June 13th), which gives credit to the author of the Treatise on Cancer, for sense at the expense of his sincerity, as follows: "In fine, let us say of Dr. Fell, that we do not believe him to be so silly as to suppose that his remedies really possess the powers which he desires the public to believe." An analysis of even his selected cures, thirty-five in number, out of seventy-five in his note-book, will not bear him out in his assertions of his having discovered a successful method of curing cancer. The period between July, 1855, from which he dates, and the time of writing his treatise, is too short to enable him to speak with any confidence of a permanent cure, or to assert that the disease will not return. His very first case ended fatally in a few months after the *second* cure of the cancer. The subject was a lady, who died of "a pulmonary difficulty," most probably a cancer of the lungs or pleura.

---

* An account of the external use of arsenic in the cure of cancer, in Med. Inq. and Observ., Vol. I.

The report of the Surgical Staff of the Middlesex Hospital, dated March 18, 1857, and signed by Alexander Shaw, Campbell De Morgan, Charles H. Moore, and Mitchell Henry, is written in the discreditable and illogical fashion of the usual certificates in favor of quacks and their remedies, and entitles its authors to the contumely which attends such productions. "Considering," to use their own language, "the limited period which has elapsed since the treatment in the hospital was commenced (Jan. 22d)," a few days over two months, common modesty and discretion ought to have kept "the Surgical Staff" from making fools of themselves in this way. Why should they desire any addition to the bad notoriety which they had already acquired by colluding with an empiric, to the extent of allowing him to carry on his plan of secret treatment in one of the wards of their hospital?

ART. IV.—*An Exposition of the Signs and Symptoms of Pregnancy:* With some other papers on subjects connected with Midwifery. By W. F. MONTGOMERY, A.M., M.D., M.R.I.A., Professor of Midwifery in the King and Queen's College of Physicians in Ireland, &c. &c. &c. From the Second London Edition. Pp. 568, Philadelphia: Blanchard & Lea. 1857.

THE work of the distinguished Irish Professor requires no commendation at our hands. As an exposition of the signs and symptoms of pregnancy, it has no rival in any language; and surely this is saying a great deal, considering the able treatises that have appeared upon the subject in France and Germany. The work indeed has become classical. The first edition, which consisted chiefly of a reprint of the admirable article which the author had furnished upon the signs and symptoms of pregnancy, to the Cyclopædia of Practical Medicine, was exhausted several years ago, and it was therefore with no ordinary satisfaction that we hailed the appearance of the present treatise, which may, in truth, be regarded as almost a new book. Much of the work has been entirely rewritten, the former edition has been revised, and a large amount of new matter has been added, thus increasing the size of the volume to double its original dimensions. Dr. Montgomery sought information wherever he could find it, at the bedside of a large private and hospital practice, and among distinguished medical men, both at home and abroad, in England, Scotland, France, Germany, Denmark, Sweden, Norway, and America. Under the head of the corpus luteum he frequently alludes, in appreciating terms, to the valuable labors of our countryman, Professor Dalton, of New York; whose researches have thrown so much light upon the nature and structure of that interesting formation. The work is written with great elegance, and abounds in the most valuable information upon every subject of which it treats. It is illustrated by a number of woodcuts, and by two beautifully colored plates, representing the appearances of the corpus luteum in the various stages of its development.

The Philadelphia publishers deserve great credit for the manner in which they have brought out the American edition; they have spared no pains or expense to make it fully equal to the British. We are particularly gratified in not seeing any parasitical addenda, as they are called by Dr. Holmes, clinging to it: "no pediculus in the title-page—no pulex in the shape of a teasing footnote—no ascaris in the form of an appendix." The matter is wholly the author's, without any interpolation or distortion of any kind, pure and undefiled as it fell from his own hands. We hope the day is not distant when this great publishing house, and every other establishment of a similar character in the country, will see the propriety of issuing foreign works upon the strength of their own intrinsic merits, without the name of an American doctor, whose only merit too often consists in his bare-faced impudence in *indorsing*, as it has been modestly styled by a neighboring critic, the author of the book upon which he attempts to ride into a little temporary notoriety.

Want of space compels us to forego any further remarks upon Dr. Montgomery's work; at some future time we shall recur to it with a view of presenting a brief analysis of its valuable contents. Meanwhile we cordially recommend it to our readers as a production that should be in every Physician's library.

ART. V.—*On the Diseases of Women; including those of Pregnancy and Childbed.* By FLEETWOOD CHURCHILL, M.D., T.C.D., M.R.I.A. Vice President and Fellow of the King and Queen's College of Physicians in Ireland; One of the Presidents of the Obstetrical Society; &c. &c. A New American Edition, revised by the author. With Notes and Additions by D. FRANCIS CONDIE, M.D., Fellow of the College of Physicians of Philadelphia, &c. &c. 8vo. pp. 759. Blanchard & Lea, Philadelphia, 1857.

WE have looked through the new edition of Dr. Churchill's work on Diseases of Women with some care, and no little interest. We were desirous of ascertaining, in the first place, whether the book was an improvement upon the first edition, which latter was known to be but a poor apology for the name; secondly, whether the author, in preparing this edition for the *American market*, had followed the wise policy of those who manufacture goods for a foreign trade, by first acquainting himself with the state of medical literature and the wants of the profession in this country; and thirdly, what share the American editor has had in the construction of the volume, and with what credit he has performed his uncalled-for labor.

In reference to the first of these points, we take pleasure in stating that the new edition is as much superior to the first as the latter was below what was expected of a man of Dr. Churchill's undoubted ability and experience, both as a writer and practitioner, and the work may be now looked upon as a faithful compilation of what may be supposed to be known in Great Britain, concerning most of the subjects discussed.

Our examination to ascertain what use, if any, the author has made of the numerous and valuable contributions which American physicians have made to the treatment of some of the diseases and accidents much dwelt upon in his book, has resulted in the conviction that he possesses a very indifferent acquaintance with the state of obstetric medicine and surgery on this side of the Atlantic. He has evidently limited his reading of our periodical medical literature to that of a single journal,—a fact which sufficiently explains his profound ignorance of the recent improved method of operating for vesico-vaginal fistule, the great success of which constitutes one of the proudest triumphs of our art.

The third point to which our attention has been directed, is one upon which we have had much to say ever since we entered the ranks of journalists, but as the reform for which we have contended is not to be gained except by frequent, and possibly tiresome reference to and exposure of the evils which American editors have inflicted upon our home literature, to say nothing of the damage that most of them do to the reputation of the authors upon whose works they attempt to ride into public notice, we hope to be excused for bringing the subject up whenever a fresh occasion presents itself. We have here, as already stated, a book prepared by the author *expressly* for the American profession, to whom it is *generously* dedicated, and yet it must needs be indorsed by an American physician. Why such a conjunction? The very fact that it bears upon its front the name of so learned and distinguished a physician as that of Dr. Condie, would imply that it fell, like a sickly, puling infant, stillborn from the British press; that it, in short, stood in need, the moment it came into this country, of a kind nurse and a full diet. If the book had been signally improved by this superaddition, if the deficiencies we have referred to had been filled up, we would have had little or nothing to say about the matter; albeit it would be better that every author should stand or fall by his own merits; but, strange to say, where the book was most nearly complete the editor's notes are most numerous, and where they were most needed they are incomplete, or altogether wanting.

In conclusion, it cannot be inferred from what we have said that we place a low estimate upon Dr. Churchill's book. To the American reader, who is supposed to be acquainted with the special credit due to our home profession in this branch of medicine, the work is one of the greatest value, and as such we heartily commend it to every practitioner in the land.

ART. VI.—*Smithsonian Contributions to Knowledge. Investigations, Chemical and Physiological, relative to certain American Vertebrata.* By JOSEPH JONES, M.D., Professor of Chemistry in the Savannah Medical College, 1856.

WE address ourselves, with extreme regret, to the duty of briefly reviewing the memoir of Professor Jones. We say, with extreme regret, because it is never pleasant to expose the defects of an author, and because in the present case, the defects are almost atoned for by an industry and perseverance, which in time will, no doubt, attain to more perfect and more accurate results.

Professor Jones treats, in the book before us, of the method of analyzing blood, of the blood of vertebrated animals in normal and abnormal conditions, of the effects of starvation on their solids and fluids, of digestion, of the comparative anatomy and physiology of the pancreas, liver, and spleen, and finally, of the kidney and its secretion.

The range of subjects thus considered is enormous for the scope of a memoir, and we shall, therefore, hasten to pass over the ground with a rapidity proportioned to its extent. The chapter upon Analysis exhibits, at the outset, a defect, or rather an excess, which exists throughout the volume. In place of a simple, definite statement of the author's plan of chemical procedure, we are entertained with an account of how this and that man's method is in fault, &c. In other places, as on page 30, where a theory of Professor Carpenter is stated without acknowledgment, the author indulges his reader with the views of Bernard, Professor Jackson, &c. To such an extent is this sometimes carried, that one is puzzled as to what the writer himself conceived to be original, and what he did not.

The next chapter deals with analyses of the blood of animals in a *normal* condition, as the succeeding one treats of it under abnormal conditions. On a general survey several points arrest our attention. There are twenty analyses of *normal* blood, so called. Now will Professor Jones inform us how the blood can be normal in a dog " poorly fed" (Anal. 19), or was he poorly fed on one occasion only, or how long exactly ? Next, in casting our eyes over the analyses, we observe that Professor Jones estimates the water, corpuscles, albumen, fibrine, saline constituents, &c., in each specimen of blood. In each case (we have added up most of them), the analysis counts up exactly 1000. A degree of accuracy most astonishing, when we observe that he estimates the fibrine, by the rod or whipping process, of necessity subjecting his analysis, at least in some cases, to a loss of which we have no record. We observe, again, that where the fibrine is unstable, and redissolves in the blood on standing, it is entirely left out of the calculation, in place of being estimated as dissolved albumen. This appearance of remarkable analytic skill, with evidence here and there of singular want of chemical resources, is not a little difficult to understand. Another example occurs on page 63, where, at the foot of a complex analysis, we are told that the specific gravity of the blood was not taken, because our author's last specific gravity bottle was broken; as if any thin phial would not have answered. In several instances where our author restates his former analyses, they are numbered as if new, an error which would undoubtedly mislead a person who had occasion to quote or mention their whole number. Of minor defects there are many, and some which will disappear no doubt in a future edition. Thus, the appearance in the blood, alluded to on page 32, was probably only the well-known molecular fat so often seen in the blood at the close of digestion, and before the assimilation of the absorbed food is completed. Again, in the upper table of specific gravities, on page 24, our author quotes 1046 as the specific gravity of an alligator's blood, whereas on page 11, this is set down as the specific gravity of its defibrinated blood. He omits in this table the specific gravity of the heron's blood, and if we correct the error, and supply the omission, we shall find that the table does not quite so well support his proposition, that "the blood becomes more concentrated as the organs and apparatus and intelligence of animals are developed." Again, is not our author aware that the pulse of the old is *more* rapid than that of adult life, and not slower, as he states it to be.

Perhaps the best part of the book is the anatomical portion, at the close. Here, however, as elsewhere, we are left to discover how much is new, and how much is old knowledge; and while the facts recorded are not only valuable and interesting, the inferences therefrom, and the strictures upon other observers, are anything but successful or well founded—we refer more especially to the chapter on Digestion.

Here our fault-finding ends. Professor Jones's numerous propositions rest for support upon the accuracy of his chemical processes, and demand more space for reviewal than we can afford. We turn with pleasure to what we believe to be really good in the book. Professor Jones is never more instructive, as well as entertaining, than where he records his observations upon the habits of animals, and the peculiarities of structure which explain some of his results. With such a menagerie as our author can command, he would be able to teach us a great deal of what we may call the manners and customs of animals; a kind of knowledge rarely attainable, and yet essential to a correct appreciation of the mental endowments of the lower classes of created beings.

The observations of our author upon the effects of thirst and starvation, on warm and cold blooded animals, are very interesting, and well repay the reader, although the same ground has been traversed more or less by Chossat and by Edwards. The tables of the relative size of the heart, and of the rapidity of the circulation, &c., also contain new information, and of a kind which is rarely to be procured without the utmost difficulty, and for which we think that our author deserves the thanks of physiologists. Again, the same praise is due to his tables of the length of the intestinal canal of the animals examined; the weights of the pancreas, spleen, &c. Certain of the remarks appended to the chapter upon the spleen, we find extremely interesting in their bearing upon Mr. Gray's theory of the functions of this organ. Finally, whatever else may be said in regard to the book before us, no one can doubt that its author possesses uncommon industry, since, between the 4th of April and the 17th of September, he made numerous dissections and drawings, estimated the weights of organs, and the sp. gr. of blood, and other fluids, and carried on and completed at the same time, forty analyses, and this too, as he himself says, in the heat of a Georgia summer, when he was also obliged to pursue and capture the animals upon which he experimented. Let us hope that the next book from this source may be really and simply "contributions to knowledge," and not to such an extent as this one, a rechauffè of the views of others. The men who read monographs are never tyros in chemistry and physiology, and may be safely supposed to understand well enough the current views in these sciences, as well as the anatomical arrangements of the circulatory organs in the birds, fishes, reptiles, &c.

S. W. M.

ART. VII.—*Leçons de Physiologie Expérimentale, Appliquée la Médecine, faites au Collége de France.* Par M. CLAUDE BERNARD, Membre de l'Institut de France. Prof. de Médecine au Collége de France. Prof. de Physiologie à la Faculté des Sciences, &c. &c. Tome Deuxième. Cours du Semestre d'été, 1855. Avec 78 figures intercalées dans le texte.

ON page 545 of the last number of this journal, we alluded to M. Bernard's test for pancreatic tissue and juice, when in certain stages of decomposition. At the time, we spoke, in a note, of the color tests by chlorine and acid, as unreliable, and hinted at the possibility of there being omissions in the text. Since then, we have read a monograph on the pancreas by the same author, but of a later date, in which this portion of the subject is more fully treated. The determination of the anatomical nature of a tissue by means of its chemical reactions, is to some degree novel, and we have had the curiosity to repeat our author's researches in this direction, to some extent confirming his views, and yet satisfying ourselves that at present, to say the least, these tests have but little practical utility, however interesting they may be in their mere chemical relations. In the monograph referred to,

M. Bernard describes the fresh pancreatic tissue or juice, as being distinguishable from salivary, and all other tissues and juices, by the power which they possess of emulsifying and acidulating oils and fluid fats, as we have previously stated. This test is a simple one : a morsel of suspected tissue is rubbed up with a little oil, on a plate, and litmus water put in contact with it. After half an hour or more, fatty acids separating, redden the blue litmus, if the tissue used is pancreatic.

Again, when the pancreas decomposes, says M. Bernard, it is capable of being turned a wine-red by chlorine water. After further decay has occurred this agent no longer acts, and the reddening will then take place only by contact with sulphuric and nitric acids, mixed in proportions of three to one. The chlorine test is available, it seems, after two days; temperature not mentioned. The acid test can only be used later; meanwhile, the albuminoid matters of the gland lose by degrees the power of coagulating with the agents which usually so affect them.

M. Bernard seems to have had no trouble in obtaining the color test, by merely mixing the two fluids; but, as we have had more difficulty at all times, we will state briefly the most certain mode of employing the test. The pancreas may be cut up, crushed with an equal bulk or more of water, and after twenty-four hours filtered, the clear filtrate being left then to decompose. Sometimes we have allowed the gland to decompose alone, and then formed from it a putrid infusion for testing. Either mode answers, and in either case the fluid obtained is more or less coagulable, as it is less or more decomposed. After many days, the odor becomes almost insupportable, vibrias fill the liquid, and it becomes green and opaque. To use the test, the acid or chlorine is placed in a test tube, and the fluid poured upon it in equal amount, and so gently, that the two fluids may meet, but not freely mingle. If the fluids are shaken up together, the test with us, at least, has always failed. When decomposition has set in fully, the test is not affected by previously boiling the pancreas infusion, and using then the clear filtrate.

M. Bernard's chlorine test arose, we fancy, out of an experiment of Tiedemann and Gmelin, who found that an aqueous solution of the dried Alch. extract of a dog's pancreas, became red with chlorine water. We have found, however, such difficulty with the chlorine test, as to have obtained the red tint but twice, and then feebly, in upwards of twenty attempts. It must, therefore, present some difficulties which do not belong to the acid test. The successful cases were with the infusions of a cat's pancreas, five days after death. The chlorine always precipitated some albumen, and in most cases produced a yellow tinge, but no red color.

With the acid test we have had a better success, and have found that in some cases, with certain tissues, nitric acid alone, or its mixture with sulphuric, or even pure muriatic acid, would answer perfectly well. In no case, however, did the color occur under seven days, even in a summer temperature of from 70° to 90° Fahr. In most cases, it could then be observed for periods of from nineteen to thirty days. In no case did we observe the *wine red* described by M. Bernard. The prevailing tint was usually a beautiful *rose red*, or pink, and sometimes such a variety of colors were seen, as present themselves when nitric acid is added to bile.

We shall detail briefly some of the results which we observed, premising, that in some cases we failed to obtain any color test whatsoever. As the object is to discriminate the pancreas from other parts, we have usually tested the salivary glands, blood, muscles, spleen, liver, &c.

Thus, the blood of a large sturgeon was allowed to stand for six days, at a temperature of from 70° to 90° Fahr. The clot redissolved, as it usually does in this fish; and the blood, which was partially decomposed, was then boiled with an equal bulk of water, and filtered. The clear filtrate was set aside for testing. The muscular tissue, the liver, and the spleen, were similarly treated; infusions gave no result with chlorine water save slight coagulation and yellow tints. With nitric and nitro-sulphuric acids, the liver gave only a deep yellow and greenish hue, while with the blood, spleen, and muscle infusions, each acid yielded an exquisite rose pink, with a yellow layer at the line of contact; muriatic acid gave the same result with the blood alone. Usually, this yellow hue was above the rose tint, the mixture finally becoming yellow throughout. Similar results were obtained, in numerous experiments with the various tissues of the cat, the sheep, ox, calf, &c.

Perhaps the pancreas of the sheep answers best, and it is worthy of remark, that muriatic acid yields with its infusion a royal purple, and not a blue, its ordinary color reaction with albumen. Sulphuric acid alone does not answer perfectly well with the pancreas infusion, usually affording a yellow or brown, but no pure rose tints. Nitric acid alone, we have found to be best adapted to most tissues.

Since we have, in every case, failed to observe any red tints in infusions of decomposed salivary tissues, and have generally obtained them in the pancreas, there is here again a point of distinction between these seemingly allied tissues. The test, however, if it deserves the name, is only obtainable by skilful manipulation. It is sometimes perfectly unsuccessful in the pancreas of one sheep, for example, and sufficiently easy and plain in that of another. Lastly, we have obtained very pale rose tints, in decomposing solutions of ordinary egg albumen, kept for twelve days, at summer heat. Here, as with the pancreas solutions, the albumen becomes less and less coagulable as decomposition advances; and here, unlike the case of the pancreas, pure sulphuric acid answers as well, or better, than nitro-sulphuric or nitric acid alone.

S. W. M.

ART. VIII.—*Elements of Pathological Anatomy.*—By SAMUEL D. GROSS, M.D., Professor of Surgery in the Jefferson Medical College of Philadelphia, and formerly Professor of Pathological Anatomy in the Medical Department of the Cincinnati College. Third edition, modified and thoroughly revised. Illustrated by three hundred and forty-two engravings on wood. Philadelphia: Blanchard & Lea. 1857. Pp. 771.

IT must be a subject for grave reflection that, while the press in this country is so prolific of systematic works, both original and reprints, on the Anatomy of the healthy organs, Materia Medica and Therapeutics, Practice of Medicine, Surgery, and Obstetrics, the department of Pathological Anatomy, which has such close and inseparable connection with all the branches of practical medicine, and which is indispensable for their elucidation, should be neglected in nearly all the medical schools, and, of course, by nearly all the students of medicine, in the United States. Under circumstances so discouraging every lover of progress in our science, which implies of necessity intentness in securing sound principles for a foundation, must hail with pleasure the appearance of a new edition of Dr. Gross's Elements of Pathological Anatomy. Were it merely a rallying point for scattered observations by others,—a suggestion to systematized efforts in other quarters, this work ought to command our respectful attention. But it comes before us with higher claims than these, by its not only indicating the path of inquiry to be pursued, but, also, by a large amount of positive knowledge, available for guidance, where, wanting its aid, confusion and uncertainty would have prevailed.

We read in the preface: "All that related to histology and diagnosis in the preceding edition, has been omitted in this, many paragraphs and often whole pages have been rewritten; and a considerable amount of new matter has been introduced." One hundred and thirty new cuts have been added. In taking a view of this work, it should be borne in mind, that the author does not offer an entire system, but only elements of pathology; and hence we cannot expect pathological histology to be treated of in detail, as has been done by Wedl, under the modest title of "Rudiments," nor with the fulness in some parts, which we find in "Vogel's Pathological Anatomy of the Human Body." But this last writer could only promise to reach the consideration of pathological changes affecting special organs in a second volume, which, we believe, has not, after the lapse of some years, yet appeared. We shall not stop, at this time, to inquire into the merits of the plan pursued by Dr. Gross, nor to ask whether a description of morbid changes of tissues common to different organs ought not to precede any analytical examination of the alterations in the composite structure of such organ separately. The division of his subject adopted by the author, is based on physiology rather than on general anatomy—and, so far, it is open to criticism; but it has this great and redeeming advantage, that the attention of the reader is at once fixed, and he becomes interested in learning the morbid textural alterations which constitute the pathological anatomy of the organ whose diseases he may be called on to treat; but which, as part of a general system, distributed through the body, he would only have looked at in an abstract manner.

It would be wrong for us, however, to create a belief in the minds of our readers, that the author enters at once on a study of the lesions of the organs, or of Special Pathological Anatomy, without a preliminary notice of the morbid changes common to most of the tissues and organic systems of the body. This he gives under the head of "General Principles of Pathological Anatomy," on which occasion, he treats, in successive chapters, of inflammation, effusion of serum, lymphization, suppuration, hemorrhage, softening, gangrene, ulceration, cicatrization, induration, hypertrophy, atrophy, pustules, transformations, pneumatoses, or collections of aeriform fluids, polypes, hydatids, serous cysts, heterologous formations, which last include tubercle, melanoses, scirrhus, encephaloid, colloid, and epithelial cancer. The part performed by inflammation in alterations of structure may be readily inferred from the author's declaring, "as a general proposition liable to few exceptions; that all organic diseases, whatever be their seat or extent, are the result of inflammatory action, either of an acute or chronic kind." He had just before told us of the latitude of interpretation which he gives to the term "organic," in pathological anatomy, as expressing not only some permanent change in the textures of an organ, "but, also, every temporary alteration which the tissues experience when in a state of disease."

In referring to the second part of the volume, devoted to special pathological anatomy, we might find occasion to criticise the arrangement adopted by the author. It seems to us, that the first chapter, or that on the blood, might well have formed a part of general pathological anatomy, and have preceded that on inflammation, the phenomena and terminations of which consist so much in the changes and conversions of this almost omnipresent fluid in the animal organism. The same remark applies, to a considerable extent, to the chapter on the cellular texture, which is the matrix of so many of the organic systems and a constituent of nearly all the organs. More to the purpose, however, than the feature of arrangement, is a lucid and succinct description of the morbid changes in the blood and the cellular tissue, which are found in the present volume. To these topics succeed, in the following order, chapters on the adipose texture, muscular system, arteries, veins, lymphatic vessels and ganglions, joints, osseous system, cutaneous system, nervous system, eye, ear, thymus gland, thyroid gland, respiratory apparatus, heart and its membranes, nasal, maxillary, and frontal cavities, mouth, pharynx, and œsophagus, stomach and bowels, peritoneum, biliary apparatus, spleen, pancreas, urinary apparatus, male organs of generation, female organs of generation.

The numerous wood-cuts, two hundred of which were drawn from the author's own specimens, facilitate greatly a clear understanding of the text, while they show, at the same time, the large amount of original material in the preparation of the present work.

Teachers and writers on the practice of medicine and on surgery, as well as on obstetrics, may, severally, lay claim to large portions of this volume, as belonging to their branches; whereas, its contents are and ought to be recognized as common property for the use and benefit of all; or, changing the comparison, its contents constitute the necessary foundation of their different superstructures, which wanting it must be flimsy, and indifferently calculated to fulfil the original design of their framers. But of this more anon. In the mean time we offer our thanks and cordial greetings to Dr. Gross, for helping to lay a good and broad foundation. His forthcoming work on surgery will, we venture to say, show how highly he estimates the value of such a support.

ART. IX.—*Manual of Physiology.* By WILLIAM SENHOUSE KIRKES, M.D., Fellow of the Royal College of Physicians, &c. A new and revised American, from the last London edition. With two hundred illustrations. Phildaelphia: Blanchard & Lea. 1857.

THIS excellent manual has been too long before the American medical public, and its merits are too well known, to require any special notice at our hands.

Confining himself strictly to physiology proper, and avoiding the many anatomical and chemical details, and the unsatisfactory discussions upon the as yet obscure and mooted points of the science, which encumber so many of the larger standard works, Dr. Kirkes has succeeded in giving to his book the character of a well-digested epitome, which the student will find a valuable guide during his attendance at college, and the busy practitioner a ready means to freshen his memory upon forgotten facts, or to keep pace with the science in its rapid advancement.

The present edition has undergone a careful revision. Various additions and alterations have been introduced into different parts, without, however, interfering, in any manner, with the general plan and arrangement of the book. The numerous and appropriate wood-cuts, with which it has been embellished by the American publishers, greatly enhance its value to the student.

Original Communications.

ART. I.—*Remarks upon the State of Medical Science, and Some of the Diseases of Syria and Arabia.* By R. GUTZLAFF BARCLAY, M. D.

PRESUMING that a few reflections upon the present condition of medical science, in the land of the learned Alkhendi, the illustrious Rhazes, Avicenna, the Prince of Physicians, and Moses, the great lawgiver, may be deemed neither inapposite nor uninteresting, the following pages are devoted to that subject, and respectfully presented in lieu of a more formal treatise upon some more hackneyed theme.

In order that a just comparison may be instituted between the diseases and medical practice current at the period alluded to, and those now obtaining, a brief notice of the varied state of the climate, necessarily claims attention.

The subject upon which the following remarks are submitted, has been under constant investigation during several years' residence and practice in Jerusalem and its vicinity, a point nearly midway in position between the extremes of the region under consideration, and possessing, within the space of a few hours' travel, every variety of climate found between Antioch, on the one side, and the Persian Gulf and Red Sea, on the other; the precise area embraced in the writings of the authors above alluded to.

In forming a correct estimate of the diseases generally prevalent in this region, compared with those existing in similar latitudes in America, it should be borne in mind, that the isothermal line is much higher in the Old, than in the New World; consequently, although this region lies nearly between the same parallels of latitude as those embraced between Washington City and New Orleans, the climate is materially warmer; and, in contrasting the present catalogue of diseases with that of the period referred to (once prevalent in this same territory), it must be remembered, that, in consequence of diminished amount of rain, rivers, then figuring upon its map, now no longer exist.

Elevation of temperature, diminution of humidity and verdure (and the consequent electrical changes), sparsity and deterioration of food and drink, are all the necessary sequents of this long partial suspension of the "latter rains."

It must, however, by way of offset to these and other circumstances tending to aggravate or multiply diseases, also be mentioned, that the very lavish use of ablutions, enjoined by the arch-impostor of Mecca (whose followers constitute the chief class of inhabitants of all this region of country), exerts no little influence in mitigating, and even averting, many diseases. But, notwithstanding these modifying circumstances, and numerous other chemical and physical changes of a most signal character (to say nothing of the political and social changes, tending to exercise an alterative influence upon disease and its treatment, to which this land and its population have, for the last score or two of centuries, been subjected), we nevertheless find the diseases to be substantially the same as they are (incidentally, 'tis true) reported to have been, in the writings of Moses, that oldest of all historians; and in the subsequent work of "Ahrun, Priest of Alexandria."

The appended abstract—an average of several years' observation—will fully show the present thermometric, barometric, and pluviometric state of the climate of the central portions of the region under consideration. The hygrometric index almost uniformly points to one extreme in winter, and to the other throughout the summer; indicating saturation with moisture in the former, and the almost total absence of humidity during the latter season.*

It may be remarked, in general, however, of the climate, both of the mountainous and champaign portions, that it is excessively arid in summer, and moist in winter. During the winter, easterly winds prevail; but in the summer, the wind blows from the northwest with the regularity of a sea breeze; continuing, without interruption, daily, from ten A.M. till a late hour at night.

Warm, dry and oppressive siroccos occasionally blow from the region of the sandy deserts of the south, for several days successively, at all seasons; and when these alternate with the chilling blasts from Lebanon's ever snow-capped summit, the vicissitudes are both sudden and very great. It is a subject of general remark, that the winds blow in spells of several days' continuance; and those from the west and southwest (which prevail from November to April), are, by the Arabs, called "the fathers of the rains."

While snow very rarely falls at Jerusalem (and generally dissolves immediately), dews are much more copious than in similar occidental climes.

There are a few hoar frosts, of quite a formidable appearance, but they seem scarcely destructive of the tenderest vegetable life; while ice, even in the thinnest pellicle, is a phenomenon of very rare occurrence. The winters are so mild that the orange, lemon, date, fig, apricot, pomegranate, almond, and other delicate trees, shrubbery, and plants, require no protection whatever.

---

* It may be here mentioned, in connection with this fact, that, during the greatest atmospheric aridity, in midsummer, the very minutely ramifying fibres of the roots of a certain plant, having the power of penetrating the smallest crevices of the limestone rocks, may be observed with numberless drops of water pendent from them in certain cases; and this phenomenon is particularly observable in a recently exhumed sepulchre on the brow of the valley "Ben Hinnom," in which are several large mounds of the debris of human skeletons, thrown pell-mell together in masses.

It is a favorite saying of the Arabian poets, that "Sannin"—a spur of the Lebanon range—"bears winter on his head, spring on his shoulders, and autumn in his bosom; while summer lies sleeping at his feet."

The country around about Jerusalem combines a rare diversity of climate; the temperature of the Dead Sea and plain of the Jordan, some fifteen miles distant, very closely resembling that of Egypt and Lower Arabia, the upper districts being very cool, and the city itself presenting a fair average of the entire region.

To the Arabian or Saracenic physicians, who first rendered chemistry (however magistral the science was in the hands of the theorizing Alchemists) practically subservient to medical science, are we indebted for many valuable medicines and chemical agents and appliances. The untiring researches of the Alchemists after an "elixir vitæ," whereby to prolong human existence indefinitely, the philosopher's stone, for the transmutation of the baser metals into gold—however chimerical—resulted in wrenching from nature's grasp, some of the most valuable agents and materials to be found in the laboratory of the Pharmaceutist; as alcohol, opium, squill, rhubarb, senna, scammony, the golden henbane, thornapple, elaterium, the mandrake, &c. &c. That the peculiar toxical properties of this latter root may be the better understood, it may not be deemed entirely irrelevant to give a brief outline of its effects, as displayed in the person of a Mr. L——, of Scotland, who while on a visit to the Holy City, had the curiosity to test its edible qualities. After being boiled some ten hours, he observed that the root became no softer, though the water was made as black as ink; it was therefore sliced and fried in butter, and served up at tea. On account of the exceeding bitter and unpalatable taste it still retained, he was able to eat only a few small slices; enough, however, not only to turn his teeth and lips black, but produce very curious effects on his entire system. He soon yielded to the comatose powers of the narcotic root, and retired to rest; passing a very unpleasant night, troubled with startling dreams and frightful visions. On arising the next morning, he fancied there was a company of street musicians performing in his room, very much to his annoyance; and still more to his discomfiture, he imagined a number of serpents to be around him, in killing which, he utterly demolished not only his fragile crockery ware, but the more substantial furniture of his room; and was so busily engaged defending himself, that his toilette was not completed till about four P.M. Every string or straw, in his wild hallucinations, assumed the terrific form of a serpent, and was most carefully dropped in alcohol for preservation. On being discovered, the pupillary window of his eyes was dilated almost to the entire obliteration of the iris; pulse very hard, incompressible, and frequent (being 140 per minute), and he talked incessantly and incoherently about the serious losses he had sustained by the fancied robbers with whom he had been battling for many hours.

Being a man of full habit, he was blooded freely, dry-cupped along the spine, and copiously purged by the croton oil. But it was several days before he became materially convalescent, and the dilatation of the pupils continued for many days.

As a treatise of this character would be imperfect without some mention of the mode of living amongst the Arabs (who constitute the main body of the inhabitants of this country), it may be allowable to briefly enumerate some of the most ordinary articles of food and drink; as well as their manner of dress, and such habits as may have a bearing upon the subject under consideration. While the beard is allowed to grow untrimmed in all its native luxuriance, the head is closely shaven every week,* as well as all other parts covered with hair, except that portion of the scalp over the occipital tubercle, where a small tuft is left for the firmer grasp of the Resurrection Angel; which is to elevate him to the Mahomedan Paradise. Their heads are protected by the seamless red Fez (Tarboush) alone, or more generally by a muslin shawl wrapped tightly around this cap, constituting the picturesque-looking turban.

The female suffers hair to grow abundantly on her head, but with religious scrupulousness removes it from all other parts of the body, either by plucking it out with the hand, or preferably by means of a paste composed of an article called "dibbiz," made from the grape, and then inspissated to the thickness of pitch, which when applied warm, and allowed to cool, effectually extracts every hair when forcibly jerked away.

The feet of the lower classes, though generally unshod, are sometimes protected by sandals; and the middle order wear a rough shoe, made of untanned leather; while the upper circle uses a yellow morocco stocking in an outer loose red or yellow slipper, made of goat or sheep skin. The only garment worn by the great majority of persons throughout all this region of country, during the summer months, consists of simply a loose cotton gown, extending to the knees, and secured "about the loins with a leathern girdle," or a long narrow strip of cotton cloth; and during the severest months of winter, the only addition made to this very primitive costume, is a loose woollen robe; constituting their dress by day and bed-clothing at night, which must be totally inadequate to the demands of nature, as they sleep upon a thin piece of matting spread over a dirt or plastered floor.

The fruits ordinarily raised are figs, pomegranates, oranges, lemons, the prickly-pear, apricots, pears, almonds, olives, dates, bananas, and grapes of admirable quality, which are in season from the middle of July to November, and are very abundantly converted into wine by the Jews and Christians, and into raisins by the Mahomedans. Among the vegetables grown here, may be enumerated as the principal crops, lentils, onions, egg-plants, squash, cucumbers, melons, and cauliflowers—all of the finest quality. Leaven bread is rarely eaten : the only kind in use being that made of wheat, very coarsely ground (or rather bruised) in a hand-mill, by the women at the dawn of day, and baked in a very small low mud-oven (heated by the refuse of the camel), into exceedingly thin leathery cakes, called "taboon bread." A species of dirty, red, gravelly rice is very plentifully consumed when but partially cooked with "semny," the fat extracted from the broad adipose caudal appendage of the sheep of this country, or with "serage," the oil expressed from the seed of the "susim" plant.

---

* This tonsillary operation is sometimes performed with a depilatory mixture of freshly slaked lime, and other materials.

Coffee is used on all occasions, at all hours of the day, and very strong, but in small quantities and without sugar.

After shaking milk an hour or two in a goatskin, suspended from a rude tripod made by tying together three inclined poles, a very rich and delicious drink results from the partial separation of the butter; but their "lebban," or naturally soured milk, is by no means entitled to the praise so lavishly bestowed upon it by thirsty travellers, when "hardly bestead and hungry."

For several months raw cucumbers (rind and all, without the least condiment), constitute almost the only article of food for the lower class; no wine, ale, porter, cider, or intoxicating potation of any kind is used by the Moslem population—lemonade and "sherbet" (made of sugar, rose-water, and lemon juice), being their only beverages. "Arak," a highly rectified alcoholic drink, and wine, are, however, coming into very general favor with the Jews and Christians, and are beginning also to be used clandestinely, but to an alarming extent, among the higher classes of Mahomedans.

Domestic fowls thrive well, with very little attention, and are very prolific; wild partridges (in this country equalling a hen in size) are quite numerous, and herds of beautiful gazelles—the "hinds and roes" of Scripture—roam freely over the hills and valleys; but in consequence of the great nudity of the country, wild game generally is scarce.

Their meats consist almost exclusively of mutton and goat flesh—the prejudice of the Mussulmans and Jews against swine being so strong that they deem it a religious duty to pelt them with stones whenever they meet the unfortunate creatures in passing the well-supplied convents of the Christians (where alone they are to be found); but camel's flesh, which is equally prohibited by the Pentateuch, is considered a rare delicacy by the Turks as well as Christians. Beef is an article of great scarcity, and especially so in the cities, being strictly embargoed at the gates, by the laws of the land, on account of the practice, so universally current among the peasants, not to butcher their cattle till hopelessly sick or ready to die from accidental injury. Snails are abundantly consumed by all, but crabs only by the Frank portion of the population, being a commodity so scarce in market that the lower classes cannot afford to purchase them. Olive berries, either salted or pickled, as well as the raw oil expressed from them, are used in great abundance.

Although tobacco is so strictly proscribed by their "great Prophet and Lawgiver," yet they are so excessively addicted to smoking (both men, women, and children), that a pipe, with flint, steel, and spunk, and a well-supplied scrip, forms an indispensable "*vade illiscum*," even while taking the shortest walk, as well as during their frequent cessations from labor. Let them, however, have the full benefit of the fact, that they are not at all guilty of the practice of chewing, and but very slightly addicted to that scarcely less odious habit of snuffing "the noxious weed."

Opium is used for inebriating purposes by their moolahs or priests, both in substance and in smoke.

The following list includes those diseases of most frequent occurrence in Jerusalem, and (as far as can be ascertained) throughout this region of country generally, which, however much it may differ from accounts given by Eastern travellers, may be relied on with entire confidence.

Ophthalmic diseases generally—inclusive of conjunctivitis (its most frequent form),—iritis not unfrequent, and cataract.

Fevers—intermittent, remittent, continued, and "Syrian fever."

Hypertrophy of spleen, as consequent upon intermittent fever.

Dropsies and hernias.

Cutaneous affections generally.

Tape-worm, and other verminous affections.

Hepatitis, both acute and chronic.

Mania à potu, that most horrifying disease with which nearly every occidental part of the globe is cursed, is almost entirely unknown throughout the Orient. But so far as ascertainable, none of the diseases mentioned in the writings of the Arabian physicians, or in the Sacred Record (excepting those of a supernatural character), have disappeared—unless, indeed, leprosy may possibly present an exception to the remark: while diseases of a modern origin are perhaps as rife here, as in any other part of the Orient. That ophthalmic affections should be so prevalent, is not at all astonishing, when we consider the direct exposure to light and heat, to which the eye is constantly subjected throughout a large portion of this country, and the mechanical injury sustained from the dust and fine sand carried about by the winds of the desert districts; but especially the manner in which the infants of the peasantry are always carried about, suspended in a coarse bag from their mother's backs with their faces turned upwards, their eyes fully exposed to the bright effulgence of a Syrian sun; nor does the tarboush or turban afford any material protection in after-life.

The poor diet mainly used, and the crowded state in which the greater portion of the inhabitants of Syria and Arabia live, dwelling in caves and but very imperfectly ventilated huts, are *alone* sufficient to account for the universal prevalency of intermittent, remittent, and continued fevers. The "Syrian fever" is well known as the most malignant form of continued fever, of a decidedly typhoid tendency, to an attack of which, every foreigner almost without exception is subject, while undergoing the acclimating ordeal; but the universal prevalence of the intermittent (or "burning ague," as styled by Moses), is a matter of such marvel, that many resolve it into a fulfilment of the judgment denounced against the land for disobedience.

But when we take into consideration the mass of filth and debris of every kind found in all oriental cities, amounting in Jerusalem to some forty feet in depth, as was actually ascertained in excavating a foundation for the Prusso-Anglican Church on Mount Zion, and other buildings; the heaps of decomposing animal matter (for Jerusalem is a perfect internecropolis, the dead being commingled with the living, and in some places lying above them), and remember that they derive their supplies of water chiefly from tanks filled by the rains, and teeming with animalcules and filth of every description—no great surprise need be felt at the extensive prevalence of every variety of intermittent. So strong is the tendency to intermittents, that many diseases of quite an anomalous character either resolve themselves into well-developed intermittents in a short time, or readily yield when treated by quinia even when contraindicated by the pulse. While upon the subject of fevers, it may not be out of place to remark, that "Henna" (a dye-stuff in popular use for tattooing the hands), is only applied to *the feet* during the existence of fever, it being supposed to be possessed of refrigerant properties; also "kohl," another dye-stuff of a blue color, is universally applied to the eyelids of new-born babes, for forty days after birth—sanitary ophthalmic properties being ascribed to it.

For the relief of obstinate bilious affections, copious draughts of human urine are prescribed; and as a sheet-anchor of trust for difficult intermittents, the inhalation of the fumes arising from scorpions thrown on burning coals of fire, is strongly recommended.

In proof of the extraordinary love of this people for physic, I will give the following extract from a book entitled "Three Weeks in Palestine." After alluding to the fact that no person is allowed to practise the therapeutic art at Constantinople without a license from government, the writer says, "A man had set up a doctor shop without this diploma; the police were sent to apprehend him, but instead of seizing the culprit, they allowed him to slip quietly away, while they made a rush at his phials and gallipots, and swallowed indiscriminately the whole contents of his physic-shop. Luckily it consisted of simples only, and no harm was done."

Hypertrophy of the spleen as a consequence of the very imperfect manner in which the native doctors treat intermittents, is constantly met with; but though intermittents prevail so extensively, yet they are not at all obstinate in their character, and very readily yield to the simplest medication. The writer has frequently prescribed for not less than fifty cases per day, simply a purgative, to be followed by several days' use of Fowler's arsenical solution, with uniform success. Dr. Mundlesohn of the French hospital here established, has written an essay, the object of which is to prove that the remarkable prevalence of intermittents in Jerusalem, is due to absence of salts in the water of house-tanks, the only kind used in Jerusalem; but on trial, the water when well filtered is found to have a sp. gr. of 1002½, and hence must hold saline matter in solution, as indeed might very properly be inferred, from the fact that it necessarily passes over surfaces plastered with mortar made of lime and ashes.

Cutaneous affections are quite as prevalent here as in the United States; and after attaining an advanced stage, they become the favorite nidus for the deposition of larvæ of various kinds; hence they are of a most repulsive, and often obstinate character.

Syphilitic affections are not so prevalent as might be expected, while gonorrhœal discharges are quite common. Some of these disorders (strange and disgraceful as it may appear) are ascribable to sexual intercourse with animals. For not only is masturbation or self-pollution rife here, but that abominable crime, so strongly reprobated by the Apostle Paul in the 27th verse of the first chapter of Romans, and also those prohibited under so severe a penalty by the great Jewish lawgiver (Lev. 20 : 15–16), are unblushingly practised on female goats and donkeys; not only by reckless youth, but by married men, whose harems are plentifully supplied with even a liberal Mussulman allowance of wives!

Dropsies (as might very reasonably be expected of a dense population, so poorly fed and clothed) are quite prevalent, but promptly yield to medical treatment. As a cause of the frequency of hernial protrusions, the almost universal habit of wearing a stiff leathern girdle very tightly drawn around the waist, may be assigned as not at all impossible.

Palpitation of the heart is sometimes met with, and rheumatism is by no means as rare as might be supposed in so genial a climate; while hepatic complaints occur quite as frequently as might be expected of much hotter latitudes. For rheumatic pains in the legs, the patient is severely flogged several times a day over the shoulders. Small-pox, a disease mentioned as early as the year A. D. 622, by Ahrun, Priest at Alexandria, in his work entitled "*Pandects*," as well as plague and cholera, though originating and for a long while confined to this part of the globe, certainly are by no means so rife as in former years. This is attributed by many to the cleanly influence exerted by "Franks," who for the last score or two of years, have been settling in the tents of Shem, in rapidly increasing numbers.

Certainly the abatement of these scourges of the human family, is not attributable to the trivial though rigid, preventive measures practised at the various quarantine stations; nor can their introduction from abroad be prevented by the very puerile sulphurous fumigation to which letters and imported articles have heretofore so vigorously been subjected. Indeed, his highness the Sultan has become so fully convinced of the utter futility of these quarantine sanative measures, that he has recently ordered their abandonment, except during the actual existence of plague and other contagious diseases.

The following is a brief account of the treatment of small-pox, as practised by the native physicians of this country. Nothing is done for a week, but on the seventh day, a gargle of *white* lamb's urine is ordered, and if there be any eruption on or about the eyes, they are to be washed with the urine. Then from the seventh day, a strong gargle of aloes is daily used till the forty days are accomplished. Though the small-pox raged so furiously in Jerusalem, decimating its population, yet it failed to extend to Bethlehem, only some seven miles distant. The Turks, and indeed all Mussulmans are such stanch fatalists, that, although the efficacy of vaccination is so well known to them, yet it was not until the present Sultan Abd-El-Mejid encouraged its adoption by very handsome "*bucksheeshes*," that it has been much resorted to, even at Constantinople itself!

Some idea may be had of the present state and standing of the medical faculty of this country, by the following extracts from the autobiography of an educated Arab physician, of my acquaintance, of Yaffa, or Jaffa (the ancient Joppa). He says, "The medical staff, in this country, is not the brilliant one of the Arabian age;—that has passed by. It may now be divided into four classes: first, those who belong to it by descent; and, together with the honor inherited from their fathers, remnants of Arabic manuscripts, recipes from old, and from the works of Avicenna, they make a livelihood; give cooling drinks, made from certain herbs; feel the pulse; carry smelling-bottles under their belts; and a stick with a silver top, and look very dignified.

"The second class are the masters of families, who give barley-water for fever, broken bones, dislocations, and every complaint.

"The third class are the barbers, who are dashing practitioners, bleed in every case, put on plasters, never operate, and let the poor patient struggle on, under the bleeding system.

"The fourth class are those who cure by charms and superstition. For example, if the poor man has the ague, they order him to be laid near the tomb of some saint belonging to his creed.

"H. R. H. Prince Wali told me, that a Tartar, who was very fond of eating, stuffed himself till he was seized with a terrible colic. The doctors who were sent for, belonging to this latter class, brought two bags of holy earth from the tomb of a certain saint, and crammed them into the mouth of the unfortunate victim, till he was nearly stifled. In this state, the Prince saw him, and inquired what was the matter. "Your Royal Highness," they replied, "he is so stuffed, we cannot get the medicine down." One of them proposed to push it down with a ramrod. The Prince drove away the holy doctors with their remedy, and gave the Tartar a dose of medicine, which relieved him.

"Sometimes they bring holy stones, holy bones, and holy water, and place them at the tombs; and when they are on the brink of the grave, direct them to some old rug." (Dr. Kyat.)

In Jerusalem, the Moolahs or Priests (who also serve as medical men) are the favored and distinguished class; for physicians here are held in the highest esteem.

No such thing as a medical school is known throughout all Syria and Arabia; hence, the practice of medicine is altogether empirical and unavailing.*

There are many cases of great longevity to be met with here; due, no doubt, to the mild and equable climate, a good constitution, abundant exercise in the open air, and great simplicity of diet.

Superstition being the natural offspring of ignorance, the people of every caste and condition, throughout this extensive and highly favored region of the globe (where ignorance sways its leaden sceptre from the rude Bedouin of the desert to the lordly Turk), are all exceedingly superstitious. The mere touch of a crazy man is believed to be effectual for the cure of all manner of diseases; and such persons are held in high respect and esteem, if not *veneration*, by all. Amulets of precious stones, gold cases containing choice sentences from the Koran, &c., are almost universally worn; and written prescriptions are very frequently *eaten*, as well as *smoked*, as a curative measure.

Incantations and tractions—not very unlike those once practised in Great Britain—are frequently resorted to by the higher order of physicians.

Necromancy and witchcraft were probably scarcely more rife in this land, even when the great lawgiver Moses enacted such severe prohibitions against those practices, than are *pretensions* to such powers at the present day. Owing to their superstitious regard for the sacred month of "Ramadan," it is considered a misdemeanor, of no low grade, to take medicine during that entire moon, although the excesses of which they are guilty, in the debaucheries and feastings indulged in throughout every night of "Ramadan" (when they fast and sleep during the day, and feast and frolic all night), render its administration of the first importance.

---

* Although the present enterprising Sultan established a handsomely endowed Medical College at Constantinople, and, by way of encouragement, even gave a premium for students, and ventured so far to outrage the feelings of his subjects as to order dissections to be made, the experiment proved an entire failure.

The use of cathartics is well understood and appreciated; enemas are also frequently resorted to: but emetics appear to be a remedy in not very high favor with any class of people in this region. Diaphoretics are ordered, however, for almost every affection, while the warm bath, being in such universal use for mere comfort and cleanliness, is never prescribed therapeutically.

Salivation is a very favorite remedy, though rather indiscriminately put in requisition sometimes: it is never produced by absorption through the skin or stomach, but always through the lungs, by inhaling the vapor of an article that appears to be native red cinnabar, thrown on burning coals. For the cure of ptyalism the Arab doctors give a weak solution of tobacco, in which powdered alum is dissolved. There exists so marked a tendency to salivation among this people, that calomel in ordinary doses, even when combined with a purgative more active than itself, will not unfrequently bring on profuse salivation, despite our most vigilant counteraction.

Bloodletting is in high repute; and not only does general venesection receive its full share of attention, but also the topical abstraction of blood. In cupping, they exhaust the atmosphere by means of lighted conical slips of paper, and scarify with a razor, by making several deep gashes transversely over the temporal regions, and others in a vertical direction.

The following outline of the treatment of femoral bruise, which the writer witnessed not long since in Bethlehem, may suffice to impart some idea of their limited knowledge of surgery. The first application consisted of a plaster of incense and arrak; the latter appeared to be alcohol of low sp. gr., and the incense, such as is used for thurifying the altars of Oriental churches, chiefly of a terebinthine character.

A purge was next given, and the contused part washed in vinegar; a piece of recently slaughtered sheepskin was now suffered to remain on for one day, and then the fatty oil of the tail of the sheep, oil of peppermint, and a peculiar kind of black seed, boiled together and used as a liniment. On the following morning a thick slice of the warm muscle of a freshly slain sheep, sprinkled with sugar, was applied for one hour, for the purpose of determining the exact seat of the injury; and when thus ascertained, the doctor ordered the ramrod of his pistol to be heated to redness, which he then applied in several places, over the seat of greatest pain, till the integuments were fried to a crisp, ashes and oil, however, having previously been rubbed on to designate the place of application of the cautery.

In answer to my query as to the average frequency of the pulse per minute, in a normal condition of the system, the learned doctor (who was also a chief of distinction from a neighboring village), very confidently replied, "About four beats per minute ! !" It may be supposed that he is as poor a doctor as surgeon, judging from one of his remarks, that "fire was the best medicine he possessed !" Oriental physicians of the present day, unlike the learned Alkhendi of ancient times, never regulate their doses, and explain their *modus operandi*, by geometrical propositions and musical harmony.

The Arabs use the actual, as well as the potential cautery, on almost all occasions, both upon man and beast. Albucasis, "the bold and dexterous surgeon," could not have been more unnecessarily severe and lavish in the use of the knife and hot iron, than are his degenerate successors. Abundant evidence of this is had in their method of treating mania; which, whatever be its cause, nature, or stage, is committed to the sheikh or chief of the tribe, who confines the unfortunate victim closely in irons in some cheerless dungeon, and there restricting him to "bread of affliction, and water of affliction," administers *flagellations ad libitum*, even to groans and blood; and it is indeed astonishing to note how frequently they recover.

The natives of this country are entirely unacquainted with the use of the catheter; but have so far advanced as to make a rude application of the splint. Of minor surgery, circumcision is the *major* operation; in the performance of which, constant practice has rendered them quite expert. This important chirurgico-ecclesiastical operation being one of such great import, is intrusted alone to the highest order of medical functionaries, in order to secure its performance, *secundem artem—à la Koran.*

Since the introduction of sulphur matches into that part of the globe, a specific for itch is had by rubbing up their ends with olive oil.

It appears that the Turkish, Jewish, and Arab women of the present day, are as "lively," as were the Hebrew females of yore in Egypt; and on account of their exemption from such artificial causes as render parturition difficult and dangerous in more refined circles, they have no occasion for obstetrical interference; hence professional accoucheurs are quite unknown. A different inference however might probably be drawn, from the extremely tender age at which marriages are contracted! It is a common custom for boys to marry at the age of twelve or fourteen, and girls as early as ten or eleven, or even younger!

It is not a usual thing for the female attendant (should there be one) to make an examination "per vaginam," or render the slightest assistance in the delivery of the child and after-birth. Peasant women are delivered while sitting on a step, stone, or some other low seat; being merely held sometimes by an attendant, while another squats in front with a cloth spread ready to catch the infant as it is protruded out! For tardy delivery of the placenta, the patient is ordered to blow forcibly through her hands; or in the event of this failing, to immerse her feet in cold water. Great virtue is ascribed to the little blue-bead, worn during utero-gestation, as a preventive of the afterpains.

Abundant use is made of *heralding women*, for the purpose of announcing to the neighborhood, in shrill pæans which all must hear, the joyful fact, that a Mussul*man* is born into the world; and the first informant of the happy father is entitled to a present, rating from fifty cents upwards, according to the rank and liberality of the overjoyed father.

Having already far exceeded the limit contemplated in commencing this hasty treatise, the writer will not farther extend it, except merely in conclusion, to briefly contrast and compare a certain hideous disease, now existing in particular localities in Palestine, with that described in the Sacred Writings as leprosy.

It is a much mooted point, whether the leprosy now to be met with in Jerusalem and other portions of the East, is identical in character with that described by Moses; but from the investigation bestowed upon the subject, the writer does not hesitate to affirm that it is quite a different affection. It is strongly contradistinguished, by the entire exemption of clothing and the walls of the houses. It is true there is a vulgar prejudice against inhabiting a house on the inner walls of which green splotches appear, and these certainly are unhealthy; for they are always so damp when thus discolored as to afford a suitable nidus for the growth of cryptogamous plants, and naturally predispose to disease, but never to leprous affections. The present leprosy is not contagious, infectious, or congenital; and does not always itch. The progeny of lepers are not necessarily leprous, if one parent only be affected; indeed both parents may be leprous, and yet their progeny escape. It sometimes suppurates, but never so closely resembles a furuncle as to be confounded with it. There is also an entire absence of the bright white spots. It appears to be deeper-seated than the leprosy of the Bible, and the extremities—withering and suppurating—throw out spiculum after spiculum and bone after bone, till reduced to a mere stump a few inches in length.

THERMOMETRICAL, BAROMETRICAL, AND PLUVIOMETRICAL OBSERVATIONS, MADE AT JERUSALEM, PALESTINE, DURING THE YEAR 1854.

The thermometer used in these observations is one of McAllister's best instruments, though not self-registering. It was kept suspended at a short distance from the wall, in a small isolated stone building, which, though well ventilated during the day, was usually closed at night, and on this account the sunrise temperature should be rated a degree or two lower perhaps in winter than the recorded numbers. The temperature was carefully noted thrice a day,—sunrise, noon, and sunset.

It should also be remarked, that the barometer made use of had been rather roughly handled, but while its indications for the ascertainment of the actual height of the atmospheric column may have been thus vitiated, its relative indications, which alone affect the design of this table, are perfectly reliable.

Jerusalem (though there are some discrepancies in regard to its *exact* elevation), it is well ascertained, is situated rather less than three thousand feet above the level of the Mediterranean Sea, and more than four thousand above that of the Dead Sea, whose singular depression, about one thousand feet below the Mediterranean and Red Seas, is a well-ascertained fact.

According to information obtained through the Foreign Office, from the Admiralty in London, Jerusalem is situated in

Latitude N. 31° 46′ 35″,
Longitude E. 35° 18′ 30″ from Greenwich.

Table of Average Monthly Temperatures.

YEARS.	January.	February.	March.	April.	May.	June.	July.	August.	Sept.	October.	Nov.	Dec.
	°	°	°	°	°	°	°	°	°	°	°	°
1851, . .						72·8	79·8	78·2	75·	72·3	67·	53·3
1852, . .	49·6	52·1	56·	62·2	69·6	73·8	78·	78·	74·1	76·6	62·7	55·3
1853, . .	51·4	60·4	60·2	64·	77·6	77·3	78·	80·	80·2	74·9	61·1	52·9
1854, . .	49·6	50·8	51·	58·1	74·1	76·9	80·8	80·9	77·3	72·9	64·3	56·6
1855, . .	47·1											
Average, .	49·4	54·4	55·7	61·4	73·8	75·2	79·1	79·3	77·	74·2	63·8	54·5

Average annual temperature, 66·5°.

Register of the Fall of Rain at Jerusalem from 1846 *to* 1854 (*in inches*).

MONTHS.	1846–7.	1847–8.	1848–9.	1849–50.	1850–1.	1851–2.	1852–3.	1853–4.	Average
October, . . .	4·	4·	0·	Not registered.	0·	0·	0·	·2	1·
November, . .	6·4	0·	·2		6·4	0·	1·8	2·3	2·
December, . .	0·	19·	16·		33·8	15·2	9·4	3·6	14·
January, . . .	9·8	24·6	19·4		14·6	13·6	4·2	4·4	13·
February, . .	32·8	5·8	13·2		24·	25·	4·	5·8	16·
March, . . .	6·	0·	11·8		4·	8·8	21·4	6·5	8·
April, ...	0·	·2	0·		2·2	0·	1·2	3·6	1·
May, ...	0·	1·4	0·		0·	24·	2·	·5	1·
Total per annum,	59·	55·	60·6		85·	65·	44·	26·9	56·5

ART. II.—*The Parent Tissue and the Blastema.* By W. S. BOWEN, M.D., of New York.

THE following quotations, though seemingly disconnected, are united in this, that they turn upon the same question, viz.: the Chemical Constitution of the Blastema, and the influence of the parent tissue in the formative process.

Or, they may be grouped under the head of Phases of Science, as indicating an admixture of error or doubt.

Thus: It was a phase of science that Dr. Vogel presented when he observed* that "the only (solid) cyto-blastema which has yet been noticed, in relation to morbid products, is coagulated fibrine, in its amorphous condition, and permeated with water." "It is possible," he adds, "although it has not yet been observed, that other protein compounds—albumen, casein, or globulin—may act as cyto-blastemata."

Dr. Lehmann approached nearer to the truth, when referring to this paragraph, he remarked,† "A careful consideration of plastic exudations will, in itself, lead us to doubt the correctness of Vogel's views." "We cannot suppose Vogel intends to assert, that it is only the fibrine of the exudations which is converted into cells and fibres." "It still remains, however, for us to determine why cells and fibres are not formed from serous exudations; that is to say, from albuminous solutions, containing no fibrine."

"It would seem," Dr. Lehmann continues, "that the serous exudations possess no tendency to become organized" (? not) "in consequence of their never being pure plasma minus fibrine, but of their frequently containing less albumen, and, in all cases, more salts and extractive matters than the serum of the blood. Although we are unable to determine the manner in which the salts are able to arrest the metamorphosis of albumen into cells, we yet know that other metamorphoses of albumen, as for instance, putrefaction, are hindered or modified by the agency of these bodies."

This is a phase of science, but so remarkably near what we now suppose to be the truth, that it is absolutely involved in the expressions employed.

Suppose, for instance, Dr. Lehmann had said that each separate tissue and secretion is composed of definite proportions of its constituents, and that no substance, albuminous or otherwise, can form a blastema, for their development, which does not contain, for each, the necessary elements in proper form, it would then have been seen that the excess of salts had converted the albuminous solution into a chemical compound, incapable of receiving and exerting those influences which are brought into active exercise between the parent tissue and the blastema, when all the essential conditions of the formative law are present. This Dr. Lehmann expressed, but the expression was obscure.

---

* Pathological Anatomy of the Human Body, by Julius Vogel, M.D., pp. 105–6: London, 1847.

† Physiological Chemistry, by Professor C. J. Lehmann, vol. i, pp. 347–8: Cavendish Society Edition.

It was a phase of science that presented no appearance of truth, and which led the profession into error, and confirmed erroneous practice, when Mr. Paget announced,* authoritatively, that "Few theories have been less founded than those which regarded scirrhous or medullary cancer, as in any sense the result or sequence of inflammation."

It would seem necessary to the full comprehension of a subject, though but little flattering to our vanity, that not only the general principles should be given, but illustrated, and that the practical application should be pointed out. In short, that nothing be left to intuition—nothing to induction.

Let us glance, in passing, at the relevant facts of science, known by their authors, when the above quotations were written.

Dr. Vogel knew that the egg contained no fibrine, and that from albumen and vitellin, carbonate of lime and phosphorus, the tissues of the bird had to be formed; and he had a comprehensive knowledge of the law of homologous formations. He knew that the law of analogous formations was derived from *it*, and that heterogeneous products ensued as a still more remote result of the modified conditions of the first-named law; for when speaking of the various forms of condensation of tissue, he remarks, "We shall attempt to work out, as far as possible, the general laws followed by pathological formations in their development. These laws are very closely allied with those which direct the development and formation of tissues in the normal state; indeed, in many cases no definite line can be drawn between normal and abnormal formations" (p. 99). "The cyto-blastema, on the one hand, and the pre-existing tissues on the other, are each factors influencing the formation of organized morbid products, and it is on their different properties that these epigeneses are dependent, both for their mode of formation and for their general characters."

By "properties" we are to understand, on the part of the blastema, its "quantity" and "quality," and as they refer to the parent tissue, its state of health, or "physiological type." "In proportion as the physiological properties of the parent tissues deviate from the normal type, so much the more heterogeneous will be the epigenesis. Thus in gangrenous parts, the exudation admits of no normal development, and the same is the case in parts in which the nerves have been divided. In structures which have been changed by chronic inflammation, or of which the physiological properties of the elementary parts differ, for any reason, from the normal type, pathological epigeneses are produced distinct from those that occur in healthy parts" (pp. 114–116). No error can be discovered here, except that noticed by Dr. Lehmann, relating to the constitution of the blastema, and it is more than probable, as Dr. Day suggests in his translation of the "Physiological Chemistry," that Vogel's remark applied exclusively to morbid products. This view, however, does not impair the force of Lehmann's criticism, fibrine not having been named as a transition substance, but as THE pabulum, and subject to metamorphosis.

---

* Lectures on Surgical Pathology, by James Paget, F.R.S., vol. 2, p. 557. London, 1853.

Lehmann corrected Vogel: yet had he studied his author with more care he would, himself, have given us a fact where he presents but a phase of science. Had he given that attention to the quality of the blastema which Vogel indicated as essential, and had he in connection with this studied the constitution of the different tissues and secretions, he would have arrived at the knowledge of what elements were required in any given case to form an elaborate blastema. He knew that albumen was the potential basis of all the structures, and that, as for the nutrition of the whole body, albuminous solutions were insufficient without the inorganic principles, so for each separate tissue or secretion, some one or more of these would be required, in addition to albumen, to form its nutritive material.

The application of this knowledge was neglected, and the result was an approximation to the whole truth, whereas the complete theory might have been given unmingled with hypothesis.

So at the present day we see men questioning the significance of cells in the formative process. All that is required on the part of Mr. Huxley is to lay aside the microscope and resort to chemical investigation, and he will connect the various appearances of cells and fibres with certain formulæ; and throw a steady light over the whole subject of metamorphosis and development.

Mr. Paget was familiar with all the learning that distinguished Drs. Vogel and Lehmann—he had read the paragraph just quoted: "In proportion as the physiological properties of the parent tissue deviate from the normal type, so much the more heterogeneous will be the epigeneses"—yet he says that cancer can never result from inflammation.

I propose to arrange the conditions essential to formation in concise formulæ, in order to show the facility with which a purely physiological process may glide into morbid action, and at the same time I hope to demonstrate the reverse of Mr. Paget's position.

It is but just to this gentleman, with whom it is my misfortune to differ, that his arrangement of the conditions of nutrition should be placed prominently in view, in order that the reader may judge intelligently of the argument.

"Doubtless," Mr. Paget remarks, "the conditions necessary to the normal nutrition of parts are many, but the chief of them are these four:

"1. A right state and composition of the blood, or other nutritive material.

"2. A regular and not far distant supply of such blood.

"3. (At least in most cases), a certain influence of the nervous system.

"4. A natural state of the part to be maintained." Vol. I, p. 15.

By a right state of the blood, we are to understand a fluid capable of furnishing an appropriate blastema.

The following are the conditions of Dr. Vogel's law of analogous formations:

"The nature of the development of pathological epigeneses is dependent on

"1. The cytoblastema, the quantity, quality, and mode of its production. The more rapidly and abundantly it is secreted, and in proportion as the chemical composition (which, however, is certainly not accurately known), differs from the normal blood plasma, so does the influence of the surrounding histological elements decrease, and the formation proportionately deviate from the normal type. Thus, small quantities of exudation become easily organized, and simple hypertrophy usually consists in small exudations repeatedly occurring, after long intervals (weeks or months). We can draw no very definite limit between this process and that of healthy nutrition. Abundant and rapidly formed exudations are rarely organized, usually proceeding to suppuration. Exudations undergoing incipient putrefaction, as for instance, ichor, do not become organized, and where the composition of the blood (and, consequently, the exudation proceeding from it) differs considerably from the normal type, as is probably the case in typhus and scrophulosis, either no organization follows, or else it occurs very imperfectly.

"2. The nature of the development is influenced by the histological elements of the part in which the epigenesis occurs. If the influence of the part predominates, the newly formed material resembles the pre-existing normal tissue—and thus in morbid hypertrophy, in regeneration of lost parts, &c., the process is just the same as in ordinary nutrition. This important law, which plays a very active part in pathological epigenesis, I will for brevity term "the law of analogous formations."

NOTE.—Hypertrophy. This term, especially in what are called practical books, is often confounded with "thickening." An hypertrophy is a physiological formation—thickening is a result of inflammation. The pathological formation is not an exact representation of the parent tissue, and its position is interstitial or otherwise abnormal, arresting in a greater or less degree the functions of the organ into or around which the blastema has been transuded. Hypertrophies, on the contrary, are, as a general rule, histologically and anatomically perfect, and the functional power of the organ increases in the ratio of its growth. The exceptions to this rule are found in "abnormal accumulations of normal elements," to which Vogel's term "morbid hypertrophy" ought to be confined. If the term thickening is considered too ordinary, some other should be employed that will express the entire change that has occurred in the affected part, and not confound it with that which is, certainly an intense, but at the same time purely normal and conservative process.

The consideration of this subject has a practical as well as theoretic importance, especially to the surgeon, in the treatment of wounds attended with loss of substance. The reparative power varies in the different tissues—bone, for instance, is repaired perfectly by a new growth. I doubt if the skin ever is; at least I have never been satisfied by any evidence that has come within my limited observation that this tissue has been repaired to any extent, even the most minute, that comes under treatment, after the manner of its original formation; the new product being, like the parent tissue, fully capable of performing all its functions. When loss of substance occurs in the skin, experience teaches us that, instead of the delicately organized papillæ, which give to the surface its peculiar characteristic, it is patched with connective tissue, forming a dense unsightly cicatrix, and in those cases where the skin has been restored to apparent perfection, its morbid sensibility under all those slight impressions which it is its office to resist, and its proneness to ulceration under ordinary pressure, convince me, without the aid of the microscope, that the new formation has not reached the physiological standard.

It is certainly a question of the first importance to the practitioner, whether his patient is to be disfigured and maimed by his *cure*, or have the part restored, in good degree, to its original form and usefulness—that is to say, whether the injury is to be repaired by growth or by thickening, by homologous or analogous elements.

It would form no very difficult task to show the comparative procreative powers which the tissues possess, nor would it be altogether profitless; for, revealing the causes which hinder or accelerate restoration, it would suggest indications for treatment. Surgery, however, is not my province. I wish only to direct attention to the necessity of connecting definite ideas with terms in common use.

We see in fœtal development and growth a general condition of the capillaries, well marked, for instance, in bone; which, if compared with that of adult life, as the standard, would be pronounced a state of hyperæmia.

This state of vascular excitement is revived locally in adults, under the influence of exalted functional activity; and as its products are physiological growths (hypertrophies), I shall call it physiological hyperæmia.

It constitutes with other conditions the law of homologous formations.

Formula 1*st.*

Law of Homologous Formations.

Blastema—Albumen.

Conditions.

1. Physiological hyperæmia.
2. A physiological blastema.
3. The parent tissues in a physiological state.
4. The supply (of blastema) not to exceed the power to organize it wholly into homologous histological elements.

The law of homologous formations is composed of that assemblage of conditions, under the influence of which the tissues produce elements like their own from the blood.

The blastema is the pabulum from which they are immediately produced.

The first step in the process of development is the organization of the blastema; that is, its conversion into cells, by which, probably, appropriate inorganic materials are elaborated; or the blastema is fibrillated for the new growth, according, perhaps, as special materials are, or are not, required, as for instance, phosphate of lime, in the bones.

The second step is the development of these primitive forms into histological elements, identical in every respect (chemical and morphological identity) with those of the parent tissue.

Doubtless Mr. Huxley will yet bring to light all the hidden details of the metamorphosis of the blastema.

To this elaboration and development the reaction of the healthy parent tissue is essential. It is also essential that the supply of material shall not exceed the demand of the part, or its power to organize it wholly. This requisition is determined mainly by the degree of functional activity manifested.

The second and third conditions are obviously essential.

This law is fundamental. In the adult it is a *latent* force, that springs into action for good or evil, according as the exciting cause is physiological or pathological, that is to say, either exalted functional activity, or any cause that induces inflammatory action.

There can be no doubt that from its modified conditions, the great majority of pathological forms arise, and that all are influenced by it. For example, substitute pathological for physiological hyperæmia, and we have at once all the conditions broken but the second.

This state (pathological hyperæmia) constitutes the essential feature of inflammation. It may be excited by prolonged and excessive functional action, as well as by violence, or the ordinary causes of disease. The formations resulting from it are similar to those which flow from physiological hyperæmia, but not identical. They are analogous.

Hence we have the law (Vogel's) controlling these formations.

Formula 2d.

Law of Analogous Formations.
Blastema—Albumen.

Conditions.

1. Pathological hyperæmia.
2. The blastema physiologically organizable.

The departure of the parent tissue from the normal standard, and the excess of blastema, are included in the first condition.

These formations vary in their structural and chemical characters. Some can scarcely be distinguished from true growths (hypertrophies), or from the parent tissues; others form with the pre-existing tissues an amorphous mass of condensed matter, that can scarcely be resolved by the microscope. The conditions are altered in a corresponding degree; here we see the force of Vogel's remark, which has twice already enriched these pages, which ought to be emblazoned over the cases of every pathological cabinet.

"In proportion as the physiological properties of the parent tissue deviate from the normal type, so much the more heterogeneous will be the epigeneses." Analogy degenerates into heterogeneousness, the least perfect specimens forming the cancroid diseases of recent pathology.

In heterogeneous formations the same gradations may be observed. In cancroid diseases analogous elements abound. As we descend the scale, secondary development of the blastema fails; and finally, in the lowest forms, primary development is more or less imperfect, as seen in colloid cancer.

It has been stated, that to the elaboration and development of the blastema, the reaction of the healthy parent tissue is essential. This is, of course, diminished as consolidation takes place, by the interposition of analogous elements, until it almost ceases; perhaps, and most probably, from the interruption of nervous communication by the pressure of the analogous elements. Thus the blastema is rendered almost unorganizable, and absolutely incapable of being developed into either homologous or analogous formations. Heterogeneous products are alone evolved. So then, we may say there is a law controlling the formation of cancer.

Formula 3d.

Law of Heterogeneous Formations.
Blastema-Albumen.

Condition.

The parent tissue incapable of physiological reaction.

That this condition renders the blastema incapable of being developed into any homologous or analogous tissue, when absolute, may be demonstrated, and at the same time it can be shown that these two conditions: 1st, capacity in the blastema for development, and 2d, the reaction of the parent tissue, are not only essential to organization, but that they are distinct forces, though mutually dependent; thus, if an organizable blastema be received in a glass cup, no chemical process can convert it into bone or muscle; if received into a necrosed bone, it will not become organized; if received into a condensed tissue, it may be developed into a morbid product, but if it be received into a healthy tissue, it will be converted into homologous elements, under the law of homologous formations.

On the other hand, an unorganizable blastema cannot, under any condition of the parent tissue, be developed; it will either be absorbed or encysted, or it will decompose and be cast out. It therefore follows of necessity, that there is a force in the blastema as well as in the tissues; but it is equally evident that the nature of the blastema depends upon the condition of the tissue into which it is received. It is elaborated there.

Now as a pure albuminous solution cannot be developed of itself, we arrive at the conclusion, that elaboration consists in the proper combination of earthy and animal principles, and development in the formation and growth of histological elements from this nidus.

I have endeavored to trace in outline the course of the formative process, from the production of homologous elements to that of cancer-cells. I trust that I have shown that it is not essential that an hereditary diathesis should exist, or that any constitutional proclivity should usher in these formidable messengers of death. Such antecedents are favorable to their production, inasmuch as they affect the blastema, and they are the usual precursors of cancer; but this result may follow a bruise in a perfectly healthy man, and manifest itself as a primary local affection, or become constitutional and secondary.

Mr. Paget does not unite with those who hold this opinion; yet he admits that change of structure has some agency in the production of this disease, but has not shown how it is effected. If not by modifying the physiological conditions of the tissues in the manner indicated by Vogel, I would with deference ask, What is the mode? Should proof be required that the position assumed is based on true ground, it may be found in the analysis of Mr. Paget's description of the three great divisions of cancer, viz.: Scirrhus, Encephaloid, and Colloid, and by showing the degeneration of one form into the other.

Mr. Paget makes the following distinction between "innocent and malignant" tumors.

The chief distinctions are to be traced in certain characters which, in the malignant tumors or cancers, are superadded to those cited as belonging to the whole class (vol. 2, p. 10); that is, to "innocent tumors," which are "really imitations, so far as their structure is concerned, of the natural parts" (p. 11).

In other words, an innocent tumor is composed of analogous elements; to render this malignant something must be superadded. It only remains to detect, if possible, the origin of the foreign element and the causes of its malignancy.

Scirrhous or hard Cancer—Anatomy (Lecture 10). "The diseased mass is composed of the glandular and other tissues forming the mamma. These tissues are infiltrated by a substance that diminishes the size of the organ by its contraction, often to less than one-half its normal dimensions, thus altering the form of the breast, causing it to assume a lobular appearance, and drawing inwards towards itself the adjacent tissues." Microscopic Anatomy. The organ thus consolidated is further infiltrated by "a substance composed of two distinct parts. 1st. A fluid, solid, or nearly homogeneous substance, in which lie imbedded 2d. Certain cells, and other corpuscles. The intercellular substance very rarely assumes an appearance of fibrous texture; the cells are nucleated and multiform. This multiformity is a prominent feature of malignancy. I know no innocent tumor, except the cartilaginous, in which it is imitated. They resemble secreting gland cells."

This is essentially Mr. Paget's description of his "Typical Cancer." It is, evidently, *cirrhosis*, the analogous elements of which it is composed, having consolidated the organ, has crippled the formative forces, and rendered the part incapable of producing a higher organization than cells incapable of secondary development. Like secreting gland-cells, they perish and are reproduced.

Mr. Paget gives this "typical" cancer a middle place in a series, at the opposite ends of which are "acute" and "chronic" cancers.

"Acute cancers are rapid in progress, scarcely to be called hard; at the most, firm, tense, and elastic, even presenting a deceptive feeling of fluctuation. They are succulent, and suffused with vascularity, especially about their borders. The quantity of cancer-structure in them is very large, in proportion to the quantity of gland in which it has its seat; hence the section of an acute cancer appears more homogeneous, and the swelling is greater than in the typical form, the morbid material expanding the tissues involved. The surrounding tissues, also, are less closely connected with the cancer, which may appear as a distinct isolated tumor, rather than as an infiltration."

"In all these conditions the acute scirrhous cancers approximate to the characters of medullary cancers, and perhaps they are examples of an intermediate form of the disease, as seen in their more rapid growth, in the age of those in whom they usually occur (the young), and in their vascularity."

This is a description of encephaloid cancer, which I take it is intermediate between scirrhous and colloid cancers. There is no distinct account of the origin of the disease, or of the condition of the adjacent tissues. The tumor, however, is described as being suffused with vascularity at its borders. We may, therefore, reasonably suppose, that in the forming stage of that portion which has passed into encephaloid by the infiltration of cancer-cells into the thickened parent tissues, "vascularity" had existed, which produced the thickening and rendered the part incapable of physiological reaction. Cancer-cells, instead of analogous products, were then developed, and absorption removed the parent tissues and their analogous additions. So we may infer that the borders suffused with vascularity will, in their turn, become consolidated, and finally, infiltrated with cancer-cells.

"Chronic cancers, small, continuously becoming smaller, hard, knotted, and dry, adjacent tissues adherent, section concave, and shows more of the increased and indurated fibrous tissue of the breast than of the proper cancer-structure. All the history of chronic cancer accords with these signs of inactivity; they occur in those beyond the mean age; there is no increase of vascularity, or it is ruddy at the very seat of adhesion with the skin; the proper tissues suffer atrophy," &c.

What is meant by "increase and indurations," and by "adhesion?" If all this means inactivity and anæmia, I am unacquainted with the results of activity and hyperæmia.

It only remains to glance at colloid cancer.

"Colloid cancer. The colloid substance is clear and structureless, and sprinkled with minute dots, like oily and fatty molecules, which Dr. Jenner thinks are granules of phosphate of lime, and which to the naked eye may give it a peculiar milky or ochrey aspect, and sometimes it is beset with clusters of such molecules, resulting apparently from the degeneration of imbedded nuclei or imperfect cells," &c. &c.

"Lebert has published an exact analysis of this colloid matter, by Wurtz. The main results are, that it is quite unlike any variety of gelatin, being insoluble in water and containing only seven per cent. of nitrogen, a peculiarity which distinguishes it as well from all protein compounds, and from the materials of which (imperfectly and impurely as they have been examined) the essential structures of other cancers have been composed."

"Imbedded in the colloid substances, but in very uncertain quantity, are corpuscles of peculiar form; they are chiefly these nucleated cells, lie free in the colloid substance, or inclosed within large brood-cells, or grouped like an epithelium on the boundaries of the alveoli or cysts. These, the so-called colloid corpuscles, are small, granular, moderately transparent cells, of irregular shape, with small nuclei, or none."

"These are probably cancer-cells *hindered* or *modified* in their development by the peculiar circumstances of their formation, for with such as these, *more perfect cancer-cells* are sometimes found.

"If we look not to its structure alone, but as well to its clinical history, we shall find in it (colloid) all the distinctive features of the cancers.

"1. Its seats of election are those in which the medullary cancers are apt to occur.

"2. Like typical cancers, colloid infiltrates and replaces the natural tissues.

"3. Like them it repeats itself in other parts near to or distant from its primary seat.

"4. Colloid is often associated with other forms of cancer in the same mass.

"5. It recurs after removal.

"6. It may be derived hereditarily from parents having scirrhous cancer, or a parent having colloid may have offspring with medullary cancer."

Comment is needless.

Such are what I suppose to be the facts in the case. If this be admitted, the argument is a very simple one, and may be briefly stated.

There is but one law controlling the formation of histological elements, the conditions of which, when modified by any agent, give rise to morbid products. This is usually effected by increasing the quantity of the blastema, and by altering its constitution. Quantity and quality determine the nature of the formations, from homologous elements to ichor.

There is but one law and one blastema, and though the latter varies in its constitution to form the pabulum of the different tissues, this variation is a result of elaboration, and is a part of the process of organization.

There are three questions in opposition apparently to the foregoing views:

1. If it be true that cancer results in any case from inflammation, and that its formation is controlled by absolute laws, why not in every case?

There are no exceptions; so long as we remain in ignorance of the true nature and modes of action of the nervous fluid,(?) the primary morbid action of disease will be an occult remote cause, that will continue to be indicated, as such, under the vague terms "diathesis" and "proclivity." Take in illustration one of those cases of cancer which are of obscure origin. A tumor of small size is found in the breast, that had not been observed before. It is now incessantly handled, blistered, and anointed with irritating oils, until it ulcerates; it is then cauterized, to "change the action," which, only aggravating the evil, the tumor is pronounced a cancer, and the whole mystery is cleared up satisfactorily by the word diathesis, signifying thereby a pathological state of the blood.

I prefer to believe, until it is disproved, that the nervous fluid is electric fluid, and that a nerve in a state of exalted functional activity from a disturbance of the equilibrium of this subtle agent, is as reasonable an hypothesis as that the whole mass of the blood should be abnormal, to produce this little ganglion in the breast, and give no other evidence of it whatever.

2. Why does not every chronic inflammation terminate in cancer?

The pus-globule is a product of the formative process as well as the cancer-cell, and it is quite as heterogeneous; but being incapable of further development, and having laws peculiar to itself, relating to its office or function of disposing of the blastema when in excess, it acts as a conservative agent, and suggests the mode of treatment in cases that have resisted other measures for arresting inflammation.

3. Is there any constitutional cause for the disease?

Unquestionably. Still a local exciting cause will be required to render it effective, and the development of the blastema will be controlled by the conditions above-named. There may be degrees of capacity for development in the blastema, independent of the state of the tissues; but I cannot understand how this can be a local and not a general condition.

But I can understand a diathesis, the laws of which must be looked for in the nervous system; and I hope the distinguished author of the "Conditions and Course of the Life of Man" will, before long, make us familiar with the statutes.

[Part of this paper was addressed as a letter to my friend Dr. Carnochan: this will account for the frequent use of the pronoun I, and for the interrupted style of the article.]

ART. III.—*On the Excretion of Phosphoric Acid by the Kidneys.* By WILLIAM A. HAMMOND, M.D., Assistant Surgeon U. S. Army.

THE amount of phosphoric acid excreted through the urine, has recently been specially investigated, under various physiological conditions, by Breed,* Winter,† Mosler,‡ Bencke,§ and Böcker,|| and has also been incidentally studied by many other physiologists. Experiments relative to tissue-metamorphosis are, however, always of interest, and I shall therefore offer no apology for going over, in part, the ground previously traversed by other investigators.

The experiments detailed in this paper were all performed upon myself,

---

* Annalen der Chemie. Band 78, Heft 2.

† Beiträge zur Kenntniss der Urinabsonderung bei Gesunden, Inaug. Abhandlung. Giessen, 1852.

‡ Beiträge zur Kenntniss der Urinabsonderung, Inaug. Abhandlung. Giessen, 1853.

§ Archiv für wissenschaftliche Heilkunde, B. 1, H. 4.

|| Archiv für wissenschaftliche Heilkunde, B. 2, H. 2.

and had reference principally to the determination of the normal amount of phosphoric acid excreted under ordinary physiological conditions, and to the variations induced by strong bodily exercise and the internal administration of phosphate of soda. The quantity and specific gravity of the urine, and the weight of the body, were also ascertained.

The day was divided into three periods. The first, or morning, commenced at 7 A.M., and ended at 1 P.M.; the second, or evening, extended from 1 P.M. to 10 P.M.; and the third, or night, from 10 P.M. to 7 A.M. The urine of each of these divisions was accurately measured, its specific gravity and amount of phosphoric acid ascertained, and the weight of the body, at the end of each period, carefully determined.

The methods employed were as follows:

The *quantity* of urine was measured in a cylindrical glass vessel, holding 100 cubic centimetres, and graduated to half a cubic centimetre. For convenience, the quantity of urine is expressed in cubic centimetres instead of fluid ounces.*

The *specific gravity* was determined by means of the specific gravity bottle, and weighing in a delicate balance. The so-called urinometers, sold in the United States, are, according to my experience, absolutely worthless for obtaining results of even moderate accuracy.

The *amount of phosphoric acid* was ascertained by the volumetric method with perchloride of iron. As this process has not yet been fully laid before the profession in this country, it may be expedient to describe it in detail as originally proposed by Liebig and employed by Breed.†

"This process consists simply in the addition to the urine of a titrited solution of perchloride of iron, till a filtered sample of the mixture yields a blue color with ferrocyanide of potassium. It depends upon the fact that a fluid (whether neutral or acidified with acetic acid), which contains phosphoric acid, gives an insoluble precipitate with a fluid containing peroxide of iron.

"The solution of perchloride of iron is best prepared by dissolving 15·556 grammes of iron in nitro-hydrochloric acid, carefully evaporating to dryness in a water-bath, so as to expel the excess of acid, and dissolving the solid residue in 2000 cubic centimetres of water. One cubic centimetre of this solution precipitates ten milligrammes of phosphoric acid.

"Instead of such a solution of perchloride of iron, one of indefinite concentration may be employed, the strength of which has been previously ascertained by titrition with a solution of phosphate of soda containing a known quantity of phosphoric acid. In each case the solution of perchloride of iron must be free from chloride of iron.

"Should the urine, whose proportion of phosphoric acid is to be determined, be of alkaline reaction through the decomposition of its urea, it is probable that a part of the phosphoric acid has already been precipitated in union with lime or magnesia. In this event it is necessary to redissolve the precipitate by the addition of a few drops of nitric acid.

---

* Thirty-three cubic centimetres are about equal to one fluid ounce.

† Op. cit.

"The urine is measured and well agitated. A definite quantity (100 cubic centimetres or more), is, by means of a pipette, placed in a beaker-glass, and a solution of acetate of soda (a considerable amount when nitric acid has been added) and acetic acid mixed with it. Then, by means of a burette, the perchloride of iron is added, and the urine frequently tested, to determine whether or not the whole of the phosphoric acid has been precipitated, till a trace of an excess of iron has been added. In order to ascertain when this last is the case, a piece of filtering paper, moistened with a solution of ferrocyanide of potassium, is spread out upon a white porcelain dish (or on a glass plate over white paper), and a folded piece of filtering paper pressed against it by means of a glass rod on which a drop of the urine hangs. If an excess of solution of iron has been added, a blue color appears in three or four seconds; the quantity of perchloride of iron necessarily employed is noted. In a similar manner two other portions of the urine should be proceeded with. If the results agree, it is calculated how much of the solution of iron would have been necessary for the whole quantity of urine, and the amount of phosphoric acid indicated by this quantity of the reagent is that which the total amount of urine contains."

The acetate of soda and acetic acid may be conveniently employed by making a solution of the salt in the proportion of twenty grammes to 160 cubic centimetres of distilled water, and adding forty cubic centimetres of the concentrated acid. Ten cubic centimetres of this solution contain one gramme of acetate of soda, and two grammes of acetic acid. In ordinary cases, twenty cubic centimetres are used for every 100 cubic centimetres of urine. Where the urine is alkaline, and it has been necessary to dissolve any resulting precipitate of phosphates with nitric acid, as before specified, the quantity of the above solution to be employed should range from twenty to forty cubic centimetres, according to the amount of nitric acid necessarily added.

By the foregoing described method, results are obtained of at least as great accuracy as by precipitation and subsequent weighing, and with much less expenditure of time and labor.*

---

* The decimal system of the French is so much more convenient than our own, in chemical manipulations, and is now so generally employed in such operations, that I have not deemed it necessary to reduce the weights and measures of the foregoing process to the English standard. A little reflection, and an acquaintance with the general principles of chemistry, will enable those who wish it, to perform all the described manipulations with the domestic weights and measures.

The weight of the body was ascertained by means of a balance capable of turning with ·01 pound when loaded with 250 pounds.

During the experiments I breakfasted at 7 A.M., lunched at 1 P.M., and dined at 5 P.M. At breakfast I ate five ounces of beefsteak, eight of bread, one half ounce of butter, and ten grains of salt, and drank six ounces of strong coffee, containing two drachms of cream and two of white sugar. At luncheon I ate three ounces of cold roast beef, six of bread, two drachms of butter, and twenty grains of salt. At dinner I took six ounces of strong beef soup, eight of roast beef, four of potatoes, four of bread, two drachms of butter, and half a drachm of salt, and drank four ounces of coffee. In addition to this food I drank, at each meal, twelve ounces of water, and six immediately before going to bed.

In the twenty-four hours, therefore, I ingested sixteen ounces of beef, eighteen of bread, six of soup, four of potatoes, one of butter, one drachm of salt, two of cream, and two of sugar, and drank ten ounces of coffee and forty-two of water.

This diet does not differ greatly from that followed during former investigations of the effects of alcohol and tobacco upon the human system.*

The standard amount of physical exercise (divided as equally as possible between the morning and evening periods of the day), consisted in walking about one thousand yards.

The mental exercise consisted of reading and study from 9 A.M. to 1 P.M., chemical investigations from 2 P.M. to 5 P.M., and reading (generally of a light character), from 8 P.M. to 10 P.M., at which latter hour I retired to bed. The remaining active hours of the day were passed in necessary duties, recreation, &c. I awoke at about 7 A.M., and consequently slept about nine hours. The fæces were evacuated at a few minutes after 7 A.M., and the urine at the termination of each period.

The quantity of urine is given in cubic centimetres, the phosphoric acid in troy grains, and the weight of the body in avoirdupois pounds.

I.

STANDARD SERIES.

This series continued eight days, under the conditions already specified. The results are contained in the accompanying table:

---

* American Journal of the Medical Sciences, October, 1856.

TABLE I.

DATE.	MORNING (6 hours).				EVENING (9 hours).				NIGHT (9 hours).				WHOLE DAY.			
	Quantity of Urine.	Specific Gravity.	Phosph. Acid.	Weight of Body.	Quantity of Urine.	Specific Gravity.	Phosph. Acid.	Weight of Body.	Quantity of Urine.	Specific Gravity.	Phosph. Acid.	Weight of Body.	Quantity of Urine.	Specific Gravity (Mean).	Phosph. Acid.	Weight of Body (Mean).
April 2d,	427·5	1022·51	20·978	196·50	667·8	1025·30	25·103	196·72	498·3	1024·81	14·090	196·55	1593·6	1024 20	60·171	196·55
" 3d,	441·6	1023·04	21·820	196·42	825·5	1022·17	28·251	196·59	345·7	1025·43	10·241	196·50	1612·7	1023·54	60·312	196·50
" 4th,	378·	1024 35	17·531	196·41	594·8	1025·21	31·518	196·53	685·4	1023·62	16·356	196·44	1658·2	1024·39	65·405	196·46
" 5th,	426·7	1023·46	22·430	196·48	500·6	1024·37	25·211	196·75	524·8	1024·12	10·287	196·61	1452·1	1023 98	57·928	196·61
" 6th.	504·2	1021·59	15·260	196·30	515·4	1025·11	19·514	196·45	438·9	1024·67	15·785	196·40	1458·5	1023·79	50·559	196·38
" 7th,	450·1	1022·41	19·389	196·15	492·7	1025·04	22·301	196·27	401·5	1025·02	16·424	196·24	1344·3	1024·15	58·114	196·22
" 8th,	518·5	1021·07	24·758	195·89	486·9	1025·49	20·427	196·01	454·2	1024·35	17·438	195·94	1459·6	1023·63	62·623	195·94
" 9th,	412·4	1021·58	22·507	195·95	514·6	1024·21	25·407	196·10	489·6	1023·59	10·527	196·04	1416·6	1023·12	58·441	196·03
Average,	444·8	1022·50	20·584	196·26	574·8	1024·61	24·729	196·44	479·8	1024·45	13·893	196·34	1499·4	1023·97	59·194	196·33

An examination of the foregoing table shows the following facts:

1st. The quantity of urine excreted was highest for the evening period, next highest during the night, and lowest in the morning.

2d. The evening urine was of highest specific gravity, the night urine somewhat less, and the morning urine the lowest.

3d. The evening urine contained the greatest amount of phosphoric acid, the morning urine the next largest, and the night urine the smallest.

4th. The weight of the body was greatest at evening, next greatest at night, and smallest in the morning.

The following table, showing the amount of urine and of phosphoric acid passed per hour during each period, the proportion of phosphoric acid in 1000 c. cen. of urine, and the quantity of urine and phosphoric acid excreted for each pound weight of the body, will tend further to elucidate the subject.

TABLE II.

DATE.	MORNING (6 hours).					EVENING (9 hours).					NIGHT (9 hours).					WHOLE DAY.				
	Urine per hour.	Phosph. Acid per hour.	Phosph. Acid in 1000 C.CM. of Urine.	Urine per pound weight of the Body.	Phosph. Acid per pound weight of the Body.	Urine per hour.	Phosph. Acid per hour.	Phosph. Acid in 1000 C.CM. of Urine.	Urine per pound weight of the Body.	Phosph. Acid per pound weight of the Body.	Urine per hour.	Phosph. Acid per hour.	Phosph. Acid in 1000 C.CM. of Urine.	Urine per pound weight of the Body.	Phosph. Acid per pound weight of the Body.	Urine per hour.	Phosph. Acid per hour.	Phosph. Acid in 1000 C.CM. of Urine.	Urine per pound weight of the Body.	Phosph. Acid per pound weight of the Body.
April 2d,	71·2	3·466	48·67	2·12	·157	74·2	2·799	37 72	3·39	·122	55·3	1·565	28·30	2·53	·071	66·4	2·507	37·75	8·11	·306
" 3d,	73 6	3·636	49·40	2·24	·105	91·7	3·139	32·05	4·10	·143	36·2	1·138	31·16	1·75	·052	67·4	2·513	37·28	8·21	·307
" 4th,	63·0	2·921	46·36	1·95	·089	66·1	3·502	52·98	3·02	·163	76·2	1·150	15·09	3·48	·083	69·1	2·725	39·47	8·44	·338
" 5th,	71·1	3·405	47·88	2·12	·114	55·6	2·801	50·89	2·54	·128	58·3	1·143	19·60	2·66	·052	60·5	2·413	39·88	7·38	·294
" 6th,	84·0	2·543	30 27	2·55	·079	57·2	2·168	37·90	2·62	·099	48·6	1·754	36·09	2·23	·080	60·7	2·106	34·69	7·43	·252
" 7th,	75·0	3·261	43·48	2·29	·098	54·7	2·478	45·32	2·51	·113	44·6	1·825	40·91	2·55	·083	56 0	2 421	43·23	6·85	·296
" 8th,	86·4	4·109	47·55	2·69	·126	54·1	2·269	41·92	2·43	·104	50·5	1·937	38·35	2·36	·088	60·8	2·609	42·91	7·42	·312
" 9th,	68·7	3·751	54·71	2·61	·114	57·1	2·823	49·47	2 62	·129	59 9	1·169	19·34	2·44	·053	58·7	2·435	43·01	7·22	·298
Mean, . .	74·1	3·430	46·27	2·23	·104	63·8	2·468	38·68	2·92	·113	53·3	1·543	28·95	2·44	070	62·4	2·466	39 52	7·64	·301

From this table it is seen that hour for hour more urine and phosphoric acid were excreted during the morning period, than either the evening or night, and that the proportion of this latter substance in one thousand cubic centimetres of urine, was greater for the morning urine than for the urine of either of the other periods. Considering that the morning embraced but six hours, whilst the evening and night were each nine hours long, the former period also shows a greater excretion of urine and phosphoric acid, for each pound weight of the body. Indeed, the *absolute* average amount of phosphoric acid in relation to the weight of the body, is much less during the night than the morning, and is but little greater during the evening, notwithstanding the difference in the number of hours.

It would appear from these experiments, that no definite relation exists between the weight of the body and the amount of urine and phosphoric acid excreted, and that the quantity of this latter substance eliminated bears no constant ratio to the amount of urine or to its specific gravity. The investigations are, however, far too meagre to warrant the deduction of definite conclusions on any of these points.

II.

EFFECTS OF PHYSICAL EXERCISE.

The physical exercise of this series consisted in the lifting of a weight of one hundred pounds ten feet in a minute, for three periods of fifteen minutes each, at intervals of one hour. This exercise was only employed in the morning, and was in lieu of so much of the time given in the former series to study. In all other respects the course of living was the same as before stated. This series of experiments was continued for five days. The accompanying table exhibits the results.

TABLE III.

DATE.	MORNING (6 hours).				EVENING (9 hours).				NIGHT (9 hours).				WHOLE DAY.			
	Quantity of Urine.	Specific Gravity.	Phosph. Acid.	Weight of Body.	Quantity of Urine.	Specific Gravity.	Phosph. Acid.	Weight of Body.	Quantity of Urine.	Specific Gravity.	Phosph. Acid.	Weight of Body.	Quantity of Urine.	Specific Gravity (Mean).	Phosph. Acid.	Weight of Body (Mean).
April 10th.	623·3	1023·18	32·715	195·46	525·2	1024·25	18·534	195·40	510·5	1021·04	18·215	195·50	1659·	1022·82	64·464	195·45
“ 11th,	584·9	1024·05	30·244	195·30	604·5	1024·03	22·613	195·28	539·	1021·28	25·124	195·38	1728·4	1023·12	77·981	195·32
“ 12th,	645·7	1023·20	25·187	195·15	493·5	1025·11	12·250	195·20	478·5	1022·30	17·382	195·22	1617·7	1023·53	54·819	195·19
“ 13th,	615·5	1023·54	33 250	194·90	518·	1024·51	20·327	194·87	482·7	1022·25	20·845	195·02	1616·2	1023·43	74·422	194·93
“ 14th,	580·5	1024·80	36·185	194·82	524·6	1024·15	26·450	194·74	512·6	1021·87	24·612	194 81	1617·7	1023·61	87·247	194·79
Average,	609·9	1023·75	31·516	195·12	533·1	1024·41	20·034	195·09	504·6	1021·74	21·235	195·18	1647·8	1023·30	71·786	195 13

From the examination of this table the influence of the extra amount of physical exercise taken is very readily perceived.

1st. It is seen that in the morning period the quantity of urine, its specific gravity, and amount of phosphoric acid, are very considerably increased over the normal average for this period.

2d. That in the evening there is a reduction of the amount of urine and phosphoric acid, instead of, as in the former series, an increase. The specific gravity of the urine is not so much raised as in the standard series.

3d. That at night the urine and its specific gravity fall to the minimum, whilst the phosphoric acid rises slightly over the evening average.

4th. That for the whole twenty-four hours, as compared with the averages for this period of the preceding series, there is an increase in the quantity of urine, a slight decline in the specific gravity, and a very considerable augmentation of the amount of phosphoric acid excreted.

It is also seen from this table, that the weight of the body is almost invariably highest at night, next highest in the morning, and lowest in the evening.

The comparatively low average specific gravity of the urine for the whole day, was doubtless due to the fact of the employment of the exercise only in the morning. The immediate effect of the physical exertion is seen to have been an increase in the density of the urine. Had the exercise been kept up during the other periods of the day, the result would undoubtedly have been an augmentation for the whole twenty-four hours.

III.

EFFECTS OF PHOSPHATE OF SODA.

During this series of investigations I took three hundred grains of crystallized phosphate of soda per day; one hundred at 9 A.M., one hundred at 3 P.M., and one hundred at 10 P.M. At each of these hours, therefore, I ingested nearly twenty grains of phosphoric acid into the system, making sixty grains in the twenty-four hours. This series lasted as the preceding, five days. The conditions of food, exercise, &c., remained as in the first series. The results are embodied in the ensuing table.

TABLE IV.

DATE.	MORNING (6 hours).				EVENING (9 hours).				NIGHT (9 hours).				WHOLE DAY.			
	Quantity of Urine.	Specific Gravity.	Phosph. Acid.	Weight of Body.	Quantity of Urine.	Specific Gravity.	Phosph. Acid.	Weight of Body.	Quantity of Urine.	Specific Gravity.	Phosph. Acid.	Weight of Body.	Quantity of Urine.	Specific Gravity (Mean).	Phosph. Acid.	Weight of Body (Mean).
April 16th,	585·6	1024·09	36·391	194·92	523·7	1025·51	40·125	194·98	429·2	1025·40	27·896	194·89	1548·5	1025·	104·412	194·93
" 17th,	627·9	1024·11	42·587	194·83	480·5	1026·60	35·217	194·96	518·6	1025·05	29 231	194·96	1617·	1025·25	107·035	194 91
" 18th,	685·4	1024·48	47·256	194·70	527·4	1025·38	30·625	194·81	483·6	1026·11	33·192	194·75	1696·4	1025·32	111·073	194·75
" 19th,	592·4	1023·80	39·110	194·51	500·2	1025 14	38·246	194·55	539·3	1023·04	25·451	194·53	1631·9	1023·99	102·807	194·53
" 20th,	550·5	1024·23	33 475	194·20	531·	1025·30	36·351	194·32	490·1	1026·58	29·397	194·23	1577·6	1025·37	99·223	194·25
Average,	608·3	1024·14	39·761	194·63	512·3	1025·58	36,112	194·72	492 1	1025·23	29·033	194·67	1614·2	1024·98	104·910	194·67

From this table it is seen that after the exhibition of phosphate of soda, the following effects ensued:

1st. For the morning period, there was a considerable increase in the quantity of urine, its specific gravity, and amount of phosphoric acid, as compared with the means of the standard series.

2d. For the evening, the quantity of urine was slightly reduced, and the specific gravity and phosphoric acid augmented.

3d. For the night period, the quantity of urine was but slightly affected; the specific gravity and phosphoric acid were, however, increased.

4th. For the whole twenty-four hours, the quantity of urine, its specific gravity, and amount of phosphoric acid, were all increased.

The weight of the body declined steadily during each series of investigations.

Of the sixty grains of phosphoric acid daily ingested, it is probable the whole was not eliminated with the urine. Thus the average normal amount of phosphoric acid daily excreted is seen to have been 59·104 grains, whilst under the administration of the phosphate of soda, it rose only to an average of 104·910 grains, leaving 14·194 grains either discharged with the urine, or retained in the system.

The results obtained by the foregoing investigations differ in several important points from those arrived at by the physiologists before mentioned.

The meagreness of the experiments forbids the deduction of definite conclusions from them, and they are, therefore, only submitted as contributions to a fuller understanding of the subjects to which they pertain.

ART. IV.—*Case of Ovarian Tumor; Excision; Death.* By M. KEMPF, M.D., of Ferdinand, Indiana.

IN January last I was requested to see a lady, who had been for some time the subject of an abdominal enlargement. She was thirty-five years of age, the mother of four children; the eldest eighteen, and the youngest seven years old, and much emaciated. Her countenance was expressive of great anxiety; respiration hurried and difficult; skin blanched; pulse ninety and feeble; tongue moist and clean. She gave me to understand that about four years previous, she noticed a swelling or lump, about the size of the fist, in her abdomen, situated between the umbilicus and pubes somewhat on the right side, which gradually increased in size until it occupied the whole space between the pelvis and thorax, greatly impeding respiration, and oftentimes producing a distressing sense of suffocation. Her general health began to decline about the same time, and her catamenia, continuing for some months after, gradually disappeared entirely.

She had used from time to time hydragogue cathartics, but experiencing little or no benefit, she had latterly abandoned them.

After a careful examination, I diagnosed the case to be one of ovarian dropsy, but determined, before resorting to more violent measures, to give the class of remedies just mentioned a fair trial, and prescribed elaterium, grs. 1½; gamboge, grs. xiii; ext. jalap, ℈i; ext. hyoscyamus, grs. x; to be made into twelve pills, of which three were to be taken at bedtime, and one every hour the following morning, until large watery dejections should be produced.

No benefit resulting from this course, after some days, I persuaded the patient to allow the water to be drawn off; to which she having consented, I introduced a trocar, midway between the umbilicus and pubes, and a little to the right of the median line; but, to my astonishment, no water made its appearance. Confident that I had not made an error in diagnosis, I entered the instrument again, about an inch below the umbilicus, when a limpid stream of water flowed through the canula, much to the patient's relief.

In three weeks the water had reaccumulated, and I was again requested to draw it off, which I did, and injected tinct. iodine, ℥i; ordered opium, grs. iii, and perfect rest. No unpleasant symptoms followed the operation, but no benefit was experienced.

The patient urgently requesting me to employ any other means that might offer a reasonable hope of success, I called Dr. Huber in consultation, and after a careful consideration of the case, we concluded that extirpation was the only hope. Accordingly, on the 13th of April, the fluid having been drawn off by a trocar, the patient allowed to rally from this procedure, and chloroform administered, I made an incision along the middle line of the abdomen, from the umbilicus to the pubes. The cavity was first opened near the umbilicus, and enlarged from above downwards. About midway of the incision, the index and middle fingers of my left hand, which I used as a director, came in contact with the tumor, adherent to the anterior abdominal wall. I tried to break up these adhesions, but failing in this, I touched them gently with the edge of the knife; they readily gave way upon farther traction, when the opening was continued on to the pubes.

At this stage of the operation the patient became very much prostrated; the pulse was gone at the wrist; the extremities became cold, and the jaws rigidly closed. Indeed, there was every appearance of immediate death; but by frictions of the surface and the internal administration of brandy, under the active direction of Dr. Huber, reaction was established. I then proceded to apply a ligature to the pedicle of the tumor, and having drawn it tightly, divided the pedicle as near the tumor as possible. But in attempting now to lift the mass from the cavity, I found it adherent behind to a coil of intestine, about six or seven inches in length. Not being able readily to break up this attachment, I made a slight incision around its circumference when it yielded without any difficulty, and no hemorrhage followed.

The wound was closed with interrupted suture and adhesive strips, supported by two compresses and a bandage. The patient was then put to bed, and warmth being applied to the extremities, reaction took place in the course of ten or fifteen minutes; and an hour after she appeared cheerful, said she had felt no pain during the operation; pulse ninety; surface of the body of a natural temperature, and respiration easy. Ordered opium, grs. iii.

At 8 o'clock in the evening of the same day the pulse was eighty; skin warm, respiration natural, but little pain in the abdomen; micturated without much difficulty. She complained however of pain in her mouth and difficulty of deglutition; and upon examination I found the buccal mucous membrane somewhat swollen. Ordered the opium to be repeated during the night, in case of much abdominal suffering.

April 14th, A.M., pulse ninety-five; aphthæ visible on tongue and inside of cheeks; vomited twice this morning; urinated without difficulty. Took six grains of opium during the night. Not much pain over the abdomen. Ordered Sulph. Morph. grs. iss; acaciæ pulv. ℈i, to be made into twelve powders, one of which to be taken every three hours. Diet, toast and tea, with orange-peel water to drink.

5 P.M. same day. No vomiting since morning: general condition much the same.

15th, A.M. Patient did not rest well during the night; pulse one hundred and five; much thirst; complains of considerable pain in abdomen; has urinated several times. Ordered laudanum sixty drops, to be repeated in doses of twenty-five drops, if pain does not subside until desired effect is produced.

16th, A.M. Slept well part of the night; much thirst; pulse one hundred and five.

5 P.M. Abdomen slightly tympanitic; increased pain. Ordered morphia powders as on the 14th, with the addition of one grain of calomel to each.

17th. Complains of abdominal distension and much pain.

Removed dressings, found the wound had united throughout its upper two-thirds, but from the lower part, where the ligature was situated, a thin sanious fluid escaped in sufficient quantity to wet the compress. Ordered anodyne as yesterday; an emollient poultice to the wound; and diet of chicken broth.

18th. Rested but little during the night; and vomited several times. Pulse frequent and feeble, abdomen tympanitic; wound presents same appearance as on yesterday. Ordered castor oil ʒij.

5 P.M. Oil not having operated, gave enema, which brought away some scybalæ. Ordered tinct. opii. gtt. 60.

19th, A.M. Slept moderately last night; pulse very frequent and feeble; countenance pale, contracted, and anxious; very much troubled with aphthæ on tongue and cheeks; abdomen tympanitic; lower portion of wound unhealthy and discharging a good deal of sanies; has urinated. Ordered nourishing diet and milk punch, and Ol. Ricini ℥ss; Ol. Terebinth gtt. xv; Mucilag. Acaciæ ℥i; one-half to be taken at once, and the remaining in three hours.

5 P.M. Had one scanty dejection from bowels; complains of great pain in abdomen. Ordered opium to be repeated.

20th. Patient much as yesterday, but evidently declining. P.M. died this evening. No autopsy.

The tumor was found on examination to be nearly solid, of a light straw color, lobate, and of an elastic fibrous structure. Imbedded in its substance were a number of bodies of a light brown and others of a darker color, varying in size from that of a bean to an acorn, ovoidal in shape, and of a caseous consistence. The weight of the mass was three pounds.

I need hardly remark that as the tumor proved to be solid, the water which I drew off necessarily came from the peritoneal cavity, and the injection of iodine entered the same. Had I not employed the latter, an error consequent upon a mistaken diagnosis, which I conceive that the most experienced might make under similar circumstances, it seems very likely that the result of the excision would have been successful.

ART. V.—*A Case of Pregnancy in a Female, in whom the Menstrual Function had been for some years suspended.* By O. C. GIBBS, M.D., of Frewsburg, New York.

IT is a well-established physiological fact, that menstruation only occurs when there exists a certain amount of ovarian integrity, and that pregnancy can only exist in women capable of menstruation. In some rare instances girls have become pregnant before the establishment of the menstrual function, and nursing women not unfrequently become so before the return of the catamenia, suspended by a previous pregnancy. In such cases it is supposed that the requisite ovarian integrity exists to determine menstruation; that the first mature ovum, which would determine the commencement of the menstrual function in the one case, and its return in the other, becomes impregnated previous to its escape, which escape would have developed the catamenia.

A case occurred to me, not long since, which, though it may not militate against the well-established physiological doctrines hinted at above, was yet well calculated to deceive in regard to its true nature, and hence is worthy of record. It is not always easy to determine the existence of pregnancy, and sometimes the determination is not made because the true condition is not suspected. It is not a little mortifying to the physician, in such cases, to express a false diagnosis, and having just passed the ordeal of such a mortification, I am disposed to make a record of the sources of my mistake, that others may be more circumspect.

February 2d. I was requested to visit Mrs. A., who resided some twelve miles off. I complied with the request, and found the patient, who was a stranger to me, able to be about the house most of the time, and perform some light work. She complained of extreme fulness and pressure about the bowels and chest; respiration was short and hurried; slight exertion produced dyspnœa; a full meal increased the sensation of oppression, which was occasionally relieved by vomiting, the latter occurring without nausea. She had frequent desires to urinate, being compelled to rise from six to a dozen times a night for that purpose. The horizontal position was insupportable, and she could sleep only by being bolstered up to nearly a sitting posture. Though pale, she was quite corpulent; yet it was evident her abdomen was greatly distended by some foreign substance.

The history of the case was this: She was thirty-two years of age; had been married ten years; had never borne children; never had an abortion; never had unnatural uterine hemorrhage. From the commencement of her menstrual period until about three months subsequent to her marriage, she had been quite regular in her catamenia. From this time she became quite irregular, both as to the time and quantity of her menstrual flow, the time varying from six weeks to six months, and the quantity unusually small. For the first seven years succeeding her marriage, the catamenial irregularity was as stated above. During the eighth year she menstruated but once, and during the ninth and tenth not at all. Hence, it will be seen that, in this case, ovarian integrity, which determines menstruation, had been gradually waning for nearly ten years. During the last three years my patient had menstruated but once very scantily, and that once about two years since. The abdomen had been slowly but steadily enlarging for five years, though more rapidly during the last few months. She had been, for the last two years, at different times, under the treatment of different physicians, without apparent benefit, for the same symptoms, for the relief of which she now consulted me. So much for the history and general symptoms of the case.

In view of the irregularity of the menses and their total suppression for about two years, pregnancy was supposed impossible, and hence, not considered in the further examination of the case. It seemed to me evident that the case was one of ascites, encysted dropsy of the ovaries, or an accumulation of menstrual or other fluid within the uterus, in consequence of impermeability of the cervix uteri. With the patient lying upon the back, percussion over the abdomen yielded a dull sound in front, with resonance near the spine; fluctuation was distinct, and after a careful examination I could detect no solid tumor in the abdominal cavity. Dulness on percussion, elasticity, and fluctuation, characterized the abdominal enlargement. The case was evidently not one of ascites.

A digital examination of the uterus per vaginam, was made, but in consequence of the elevated position of that organ and the corpulent condition of the patient, no positive results were obtained. I could not reach the os uteri, but it was evident that the womb was much distended. This fact alone inclined me to the opinion that I had to deal with a case of impermeability of the cervix uteri, and a consequent retention and accumulation of menstrual or other fluid within the uterine cavity. I was not wholly satisfied with my diagnosis, and acknowledged to the patient my indecision; but being earnestly pressed by the friends for a definite opinion, I stated that there was an unnatural secretion of fluid, a dropsical accumulation, which in my opinion was partly within and partly external to the uterus. As the sequel will show, this statement was true so far as it went, but it was not the whole truth.

My remedial efforts were directed wholly to the mitigation of the more prominent and distressing symptoms, and were not wholly without utility. I saw the patient at intervals of a week or ten days, and at my third visit again made a thorough examination of the case, with the hope of more satisfactory results. In this I was disappointed, and consequently pursued my former plan of treatment, waiting patiently for further developments in the case.

About six weeks after my first visit, I made a third examination per vaginam, and accidentally detected ballottement. This diagnostic symptom was certainly unexpected, but it was distinct and unmistakable. It probably might have been detected at first, had it been sought for; but, in view of circumstances previously stated, pregnancy was supposed impossible, and consequently no means were taken to detect it. I again examined the abdomen externally, but no manipulation which I could bring to bear upon the case gave evidence of a solid body within; yet to my great mortification, and the patient's great surprise, I unhesitatingly pronounced her pregnant.

About a month after this, and two and a half from the time I first saw the patient, she was taken in labor and was delivered of a male child, to all appearances fully developed as to time, yet weighing only about three and a half pounds. There was nothing peculiar about the labor except that the liquor amnii was excessive, there being probably from six to eight quarts. There was considerable fluid remaining in the abdomen after labor, giving evidence that the case was complicated with ascites. The woman recovered, with no unpleasant symptoms, the ascites passing away without treatment. The child died at two months old, of capillary bronchitis; and up to the present time the menstrual function has not returned, though the woman seems in perfect health.

This case presents some points of peculiarity, which it seems to me were well calculated to deceive in the outset, in regard to its true nature. The patient was a lady of refinement, and of more than ordinary intelligence, and I think the utmost reliance can be placed upon her statements. I certainly can appreciate no motive which she could have for deception, and her statements were confirmed by her husband, also by her sisters.

It is not impossible but that the ova matured and were expelled regularly, in this case, without producing the ordinary catamenial products; but I rather incline to the opinion that such maturation and expulsion occurred at irregular and uncertain intervals. Be this as it may, I am indisposed to add additional speculations. Having made a record of the case as it presented itself, I submit it without further comment.

ART. VI.—*Case of Lamellar Cataract, with Remarks.*—By E. WILLIAMS, M.D., of Cincinnati.

THIS species of cataract, although long known to ophthalmologists by some of its striking characteristics, was first accurately diagnosed and described according to its *anatomical* peculiarities, by Edward Jäger, in his work, *Über Staar und Staaroperationen.* Prof. Arlt, of Prague, gives a short but very good description of it in his *Krankheiten des Auges,* under the name of *Stationäre Kernstaar jugendlicher Individuen.*

Mackenzie devotes merely a few lines to what he calls *central capsulo-lenticular cataract,* which I suppose to be, in fact, the disease under consideration. But the first elaborate account, and one which will ever do honor to his name, is that given by Dr. A. v. Graefe, of Berlin, in the second part of the first volume of the *Archiv für Ophthalmologie,* page 235, issued in April, 1855, of which he is one of the editors. In the second part of the second volume of the same journal for 1856, is a report of some interesting cases of the same affection by Dr. D. E. Müller, of Oldenburg. Dr. Jäger gave it the very appropriate name of *Schichstaar,* or *Lamellar Cataract,* and this is the appellation which is now applied to it by all German ophthalmologists.

As to its frequency, there is much discrepancy. Jäger, at the time his book was published, had only observed this variety of opacity of the lens in 4 cases in some 910 individuals affected with cataract; whereas Graefe reckons it the most common form of disease of the lenticular system in children. Dr. Müller saw some 70 or more instances in the space of fifteen months. Arlt had observed it in 16 to 20 persons, between the ages of 8 and 40 years. I myself had an opportunity of examining several cases while in attendance upon the clinic of Dr. Graefe, in Berlin, during the winter of '54 and '55. Here, in Cincinnati, but two examples have come under my notice, one of which I will hereafter detail; the other was shown me by my friend, Dr. Krause.

Early life seems to be the period at which the disease, by far, most frequently develops itself. Whether ever congenital or not is an unsettled point; that it is sometimes hereditary is probable, from the fact stated by Dr. Müller, that he has seen it in three sisters, whose mother was very *near-sighted* from her earliest childhood, a fact which was very probably due to the same state of the lenses in her eyes. It occurs very likely most often before the seventh year, but being at first only slightly marked, it escapes notice till the child is put to school. Graefe says, he has never seen it before the fourth year, because, probably previous to that time, the child not being required to exercise very close sight, it goes unnoticed.

One thing is quite certain, and that is, that medical advice is usually sought in such cases for supposed myopia, or deficiency of sight, the cataract not having been detected by the parents. Such patients are not unfrequently referred to the physician by the optician for advice, in consequence of his inability to find any glass that suits the case. Whether congenital, or occurring at a very tender age, the disease usually makes pretty rapid progress for some months or a year or so, and then remains stationary for an indefinite time, and most commonly, as would seem, for the remainder of life. Prof. Arlt has observed several such patients for from 5 to 10 years, without being able to detect the slightest change either in the color or volume of the opacity.

In one patient, who said he had been *nearsighted* since his earliest school days, and who, for the first time, found it necessary to change the concave glasses he had always worn, when he was 40 years old, there was good reason to believe the disease had remained stationary all that time. It has been not unfrequently seen, however, to begin anew after a certain period of quiescence, and go on to complete opacity of the entire lens.

Schichtenstaar or Lamellar Cataract is a circumscribed opacity of a thin lamina of the lens, the peripheric cortical portion of the organ and the nucleus remaining perfectly transparent.

The particulars of the following case, which is in reality a *type one,* will supersede the necessity of a lengthy description of the diagnostic peculiarities of this interesting and till recently but little understood variety of cataract.

H. S., æt. 17, a farmer by trade, of a lymphatic temperament and rather feeble physical development, consulted me some weeks ago in regard to an infirmity of vision. The father states that the patient has been *nearsighted* and had a *peculiar expression* about his eyes, since his *earliest childhood*, and his sight has always been defective. Since recovering from an attack of scarlatina, about nine years ago, his vision has been worse than before. A careful examination of the case led to the discovery of the following interesting points.

When not fixed upon an object his eyes wander or oscillate slightly, as is seen in mild nystagmus. Pupils rather small but active, and in each is seen a diffused bluish-white opacity, nearly uniform throughout, which has its seat evidently in the crystalline body.

Near the superior margin of the left, when it is moderately dilated by shading the eye with the hand, is a distinct white patch, about the size of a small pin's head, which extends down upon the diffused bluish-white opacity, towards the middle of the pupil.

In order to a more satisfactory inspection, I dilated the pupils with atropia, when the nature of the obstruction to vision was strikingly displayed.

Occupying the middle of each pupil, but on a plane a little behind it, is a circumscribed spot or disk, from 2 to 2½ lines in diameter, terminating abruptly at its border, and surrounded by a peripherical zone of the lens that is perfectly transparent.

The degree of saturation is very nearly the same in both eyes, with the exception of the white spot superposed upon the disk in the left one. Viewed in a darkened room, by the aid of a bright lamp and the ophthalmoscope, there is seen a state of things which I shall describe as faithfully as possible, protesting all the time, however, that to *see such a case once* is far more satisfactory than to peruse a thousand descriptions. Examined by perpendicular light, that is, when the light reflected from the ophthalmoscope falls perpendicularly to the plane of the pupil, in the *left eye*, the opacity presents a reddish-brown color, the red predominating in the centre, where it is more translucent than towards its circumference. The translucency is greater in the central part of the disk, under such circumstances, not because there is really less opacity there, but because of the perpendicular direction of the incident rays favoring their transmission in larger quantities than towards the circumference, where, falling more obliquely, they are more numerously reflected. Examined in a *side view*, either by changing the position of the instrument or directing the patient to turn the eye to one side, a very different appearance is presented. The whole circular surface assumes now a uniform light-brown color, except at the circumference, where it is bordered by a narrow strip or ring, more deeply saturated with white. From the outer edge of this whitish border a number of short radiating lines spring out, which give it a stellated appearance.

When a strong double convex lens is used, these radii are seen to be very numerous, and the edge, which appears nearly smooth to the naked eye, has a ragged or rather fine radiating aspect. External to this there is a transparent zone, corresponding to the periphery of the lens.

In the right eye the disk is also semi-transparent, but *less so just in the centre* than a little more externally. It is also more deeply saturated around its circumference, as in the other eye, and between this whitish border and the centre is a zone, more translucent than either the circumference or the centre. From the inferior and internal edge a narrow ribbon-like stripe branches off in the direction of a radius, and, after a course of about one-quarter of a line, dilates into a sort of button, from which emanate two diverging branches, each of which terminates by an enlarged extremity, a little short of the edge of the lens, one being somewhat larger than the other. By an oblique view, I can see beyond the ends of each of these eccentric emanations. At other points of the circumference, numerous small radiating lines are visible, some five or six of which project beyond the rest. The vitreous humor is perfectly transparent, and the retinal vessels are easily seen, but only in the peripheric portions of the illuminated background of the eyes, the optic papilla and central parts of the retina being obscured or eclipsed by the opaque disk in the lens. In order not to attach undue importance to the opthalmoscope, in the examination of such a case, it is proper to mention that the peculiarities of the cataracts are so salient as to be recognized by the unassisted eye, when the lamp is held very close to the patient's face. But the use of the instrument makes them much more striking, gives a far better idea of the relative translucency of the different parts, and enables one to discover the fine radii that go off from the edges of the disks, far more distinctly than with the naked eye. For this latter object the magnifying lens is indispensable, only the large branches above described, and some five or six of the numerous radii, being visible without it.

As to the vision of the patient, he sees badly at all distances, and appears very myopic when made to examine a minute object. In attempting to read, he holds the book about four inches from the end of his nose, and even then makes out common-sized print with difficulty. His sight is not perceptibly benefited by any sort of glasses, for he has made repeated trials of all kinds; nor has it changed for the last six or eight years. As soon as I dilate the pupils, however, he can see a great deal better in the distance, and is able to read with tolerable ease at ten or twelve inches. This is plainly due to the fact that, when the pupils are of the ordinary size, they are smaller than the opaque disks, and the images on the retina are of course then very little illuminated. Besides, the irregular refraction effected by the opaque parts of the lens, causes additional confusion of sight. When dilated, a large zone of transparent lens is uncovered, and a much larger amount of light admitted.

I made the diagnosis of *lamellar cataract*, that is, a central circumscribed opacity of a lamella of the crystalline lens, that lies between the anterior cortical substance and the nucleus, both of which parts are clear, at least in one eye. The opthalmoscopic inspection enables me to detect some difference in the state of the two lenses. In the left, it is a simple *Schichten Cataract*, as defined above. But in the right, there is the appearance of two central opacities, occupying two distinct lamellæ, which are separated by a thin portion or layer of clear lenticular substance.

In the last-mentioned eye there may be also some opacity of the centre of the nucleus, but I cannot certainly make that diagnosis. To make the matter clear to the comprehension of every reader, it may be said, that if we proceed along the axis of the lens, we have first the anterior capsule and cortical substance quite healthy, next an opaque lamella, then a transparent one, then another opaque, and finally the nucleus clear, or, as it is probably in the right eye, somewhat turbid. So far as I know, only four or five cases have been reported, where it was pretty certain that there were two or more opaque laminæ, separated by an intervening clear portion, and none where there was at the same time an opaque nucleus.

As respects treatment, the patient had, fortunately for his sight, resisted the importunities of flocks of *itinerant eye doctors*, who, to use the forcible language of an eccentric medical friend, have "*gone a whoring* with the word *oculist.*" Such impertinent, pestiferous vagabonds, now infest our medical Israel in swarms, such as "neither our fathers, nor our fathers' fathers have seen, since the day that they were upon the earth!"

O! for a professional Moses, that might find favor with the Lord, and successfully entreat Him to smother out the vile frogs, and flies, and lice, and locusts, that have been showered down upon us, in retribution for the woful and unpardonable neglect of the scientific profession, in acquainting themselves with the beautiful science of ophthalmology!

But to return, from these slimy stinking *bull frogs*, that bellow themselves into temporary notoriety from the columns of nearly all our newspapers, and filch money from the pockets of an ever-itching-to-be-humbugged people, to our patient, who has been blessed with mother wit enough to turn away with suspicion from the stupid or knavish quacks, who have insisted upon *depressing his cataracts*, than which nothing could be much more certainly fatal to his vision. I advised him to submit to no operation, but keep the pupils dilated with atropia as long as the disease remains stationary, which will probably be for the remainder of his life. I was induced to recommend this course to him in consequence of the improvement of sight produced by dilating the pupils, and the unusual ease with which he adapts the eyes to vision at different distances, notwithstanding the dilatation; the harmlessness of the remedy; but above all the serious contingencies that so often follow, even the best-chosen and most skilfully-performed operation, in consequence of rapid and great swelling of the lens, in these cases. But two operations are at all admissible in this variety of cataract, and they are,—careful laceration of the capsule through the cornea, or artificial pupil, as practised by Dr. Graefe. In a subsequent number, I propose to devote another article to this subject, in which I shall have an opportunity of speaking more at length in regard to the period *when* operative interference is justifiable, and the method best adapted to the nature of the disease.

ART. VII.—*Pathology and Treatment of Anæmia.* By H. P. AYRES, M.D., of Fort Wayne, Indiana.

WHILE medical men in this country have been lavish in contributing facts respecting the pathology and treatment of many diseases, anæmia has been neglected. But rarely do we find in medical journals a paper respecting this interesting and oftentimes tedious affliction; interesting, not only as to the varied phenomena presented, but also from the fact that it generally attacks the fairest portion of God's creation.

It may appear presumptive to offer theory or give opinions on subjects which have engrossed the attention and called forth the untiring investigation of great minds since the days of Hippocrates. But, however we may differ in our views from the multiplicity of opinions which have been advanced, we will constitute but another bark on the wide sea of theory and research.

Anæmia! what is it, and how shall we treat it?

Excessive evacuations, hemorrhage, poor food, impure air, malaria, tubercles, diseased uterine action, and a variety of other troubles, have been assigned as its causes.

I have known it to appear when the appetite was good, and the secretions of the system apparently healthy; where the person was well and warmly clad, and when poorly clad; where there was a scrofulous diathesis, and where there was a freedom therefrom; in hopeful dispositions, and dispositions of a melancholic nature; in buoyancy and prosperity; in suffering and destitution: in a word, I am satisfied no particular disposition, circumstance, or situation, will secure individuals against the attack of this disease.

The revelations which the microscope has made respecting the various conditions of the blood in disease, the gradual and oftentimes insidious appearance of the trouble, even when surrounding circumstances would contraindicate the possibility of anæmia, together with its sudden manifestations, in which all the powers of life appear suddenly to decay, and the patient, from hope and happiness, is plunged into gloomy despair, induces me to think anæmia is absolutely as primitive a disease of the blood-globules as is pneumonia of the lungs, or metritis of the womb.

There are probably exciting causes to all diseases, where they are not the result of the natural tendency in the organism to decay; but these causes are oftentimes hidden and obscure, immediate or remote.

The same reasoning is true in anæmia. There may be immediate or remote causes; these causes may act upon the globules of the blood, depriving them of their proper nourishment, and consequently destroying their healthiness, which in turn injures and changes the functions of the whole economy. The experiments of Prevost have demonstrated that the red globules of the blood are alone capable of restoring vigor and health to an exsanguine subject. Gavarret has clearly shown that health and beauty are dependent upon the same causes. Liebig says, "by the blood-globules, oxygen is conveyed to the various textures of the body;" hence we conclude that in the appearance of anæmic symptoms we have manifestations of a diseased state of this portion of the blood.

The blood-globule is a unit in itself, and as such must have its own healthy circulation and nourishment; and any causes depriving it of a healthy existence, must necessarily render it unfit to supply the waste and decay of the body. I do not wish to be understood as taking the position of Dollinger, of Germany, or in the least degree embracing his theory, further than he believed in the individual organization of the globules of the blood. This independent organization implies a liability to an individual disease, and such do we suppose is the case in anæmia. It is a disease of the blood-globule.

The microscope reveals a jagged, serrated, and broken state of the globules in many diseases. We may trace the matter back, and say it is from the want of a proper decarbonized state of the blood, defective secretion of the gastric juice, vitiated chyle, or any other functional derangement; and the reasoning will be no more correct than to say, the globules may be primarily diseased. By not supplying a sufficient amount of nourishment to the various organs of the body, the functions of the latter are deranged. This derangement but serves to perpetuate and increase the hitherto existing disease of the blood, which becomes more and more impoverished. Thus a chain or circle of disease is formed, the only result of which is a continued wasting of the whole economy. Where the first departure from health in the globule is, may ever be involved in the obscurity which has overshadowed the origin or beginning of the globule. To advance a theory that the germ of the globule is formed in the lacteal system, that incubation takes place in the mesentery, that the ova, thus in its forming state, is taken up and commingled with the blood of the body, as it passes through the heart into the lungs, where the oxygen from the atmosphere fully develops and prepares it to repair the wastes which have taken place in the organism, would be no more inconsistent or untenable, than to say the membrana commune is their origin or the instrument of their production. The former we believe. Now, the generative process may be imperfect, the incubation may be unhealthy, the full development may be deficient, the health of the globule may be affected, or its life may be too short. Let the defect be where it may, the globule is involved. While I think anæmia is the opposite of hyperæmia, I do not think the disease we call anæmia is simply a poor state of the blood, but a diseased state of the globule. This diseased state may result in a marasmus and the entire decay of the globule, in which case the anæmia may be more insidious. A more aggravated trouble may occur to the blood, by poison being absorbed from a diseased spleen, suppressed catamenia, low types of fever, vitiated liquor sanguinis, or other causes, by which the anæmia may be ushered in more rapidly. Some cases of anæmia appear to be ushered in by a sudden gangrenous condition of the blood, in which the whole mass of globules appear to be broken up, and a putrescent state of the blood, rapidly supervening, and made apparent from the fetid perspiration, black and disgusting fæces, offensive urine, bad breath, petechia, fetid eructations, and hiccough.

But how can disease be attributed to the blood-globules, in protracted or severe anæmia, when they are not found in the circulation, or, at least, where but a small part of the blood is globules? I answer, the functional derangement which the vitiated blood has produced in the stomach, lacteal system, liver, lungs, and nervous centres, has measurably suspended the generation and development of this part of the blood.

Is there a difference in the pathology of anæmia and chlorosis? Cabanis, M. Roche, Blundell, Fox, Colombat, Ramsbotham, Brown, Velpeau, Meigs, and others, differ in their views of the two affections. One attributes them to a diseased liver, others to nervous irritation, defective action of the nervous centre, derangement in the menstrual function, and a variety of other causes; but the arguments are no stronger in favor of these various causes, than that these assigned causes are but the results of a diseased blood, which may be evinced by either trouble. True, in chlorosis there is a want of the catamenia, or, if it exists, it is pale and vitiated. It is also true, that when the catamenia improves, there are symptoms of returning health; but is the returning health from a healthy menstrual flux, or is it not better pathology to say, the healthy catamenia is the result of a healthier state of the blood, which has vivified the hitherto dormant ovaries?

However we may differ in our opinions from others, we cannot but conclude, that the pathology of chlorosis and anæmia are the same, both having the same anatomical seat, and that the varied phenomena observable in depraved functional derangements, are oftener consequences than exciting causes. The microscope has shown a similarity in the globules in the two affections; and I am satisfied, as observation is extended, there will be found a still closer analogy. May it not be true, that chlorosis in girls does not oftener assume all the phenomena of anæmia, from the fact that the constituent parts of the blood are materially changed in quantity and quality, after impregnation, and particularly after childbirth?

As I have remarked in regard to anæmia, may there not be in chlorosis an atrophy—a consumption of the blood-globules—which may exist not only for weeks, but for months and years, before the patient's health is materially affected? and the ultimation of such cases has often been, a full development of all the phenomena of anæmia.

The entire nervous excitement which characterizes severe and protracted anæmia, may result from other causes, in which there is a deficiency in the supply of blood to the nervous centres, spinal cord, or the brain itself. Severe cases of flooding, thoughtless venesection in some cases of epilepsy, the too free use of tart. emet., and many other agents, which may produce nervous derangement and spasm, but to relieve which, we would pursue a directly opposite course from what we would, did the spasm originate from other agents.

In the treatment of anæmia or chlorosis, we may have a vitiated state in the secretions of the stomach, affected spleen, liver, mesentery, or other difficulties, which it may be necessary to correct as far as it is possible; not that they are the seat of the primary affection, but that by correcting these we are able to reach the primary difficulty. Iron, in some of its many preparations, has been, and undoubtedly is, the great sheet-anchor in the treatment of these affections; but cases have, and will occur, in which we cannot correct the defects of an anæmic system by iron, however untiringly persisted in, and we are compelled to resort to remedies which will insure a proper restoration of the secretory system, through which we may reach the blood.

Case 1. Mrs. C——, sixth confinement, æt. 34. Patient of an excellent constitution, and capable of much bodily exertion, in easy circumstances, and a good liver. Temperament, nervo-bilious.

Appearance: Body well formed; muscles fully developed; bones large; cheek-bones prominent; eyes bluish-gray; generally of a cheerful disposition. The labor was natural, and as usual, not very severe or tedious.

In five days able to sit up; by the ninth day assumed the superintendence of the domestic affairs of her household, but not to labor. Fourteenth day, took breakfast with the family; at 10 o'clock, felt a sudden languor and prostration, which continued for two days; the third day the languor increased; the pulse became one hundred and twenty; eructations from the stomach were frequent, and very offensive; the mouth and tongue were covered with petechial blotches, having ulcerated centres, and leaden-colored bodies; the color deepening towards the base. The tongue was rather dry, with a red streak through the centre, and flattened edges. The urine was voided frequently, with a constant desire during the interval. So extremely offensive were the urine and fæces when voided, that the nurse was compelled to remove them from the room immediately. The matter voided from the bowels was a dark-green, muco-fecal, semifluid substance, emitting a fœtor not unlike putrescent dissected flesh. The surface of the body was covered with petechia, not unlike those on the tongue; the sweat, which appeared in paroxysms, was so fetid that it affected the bed and adjoining rooms, to such an extent that it became necessary to use some disinfecting agent, in order to render the patient at all bearable to those present. The eyes were sunken and hollow, yet betraying a wild anxiety about the sudden and fearful calamity which had befallen her. The respiration became oppressive and attended with labored sighings and feelings of syncope, which could only be relieved by vigorous fanning and diffusible stimulants. The position most desired was the left side, but any position was attended with restlessness and constant change. The stomach was irritable, and ejected water and any substance taken into it. There was a difficulty in hearing, with a ringing sound in one ear; the eyes were blurred and vision indistinct. The uterine discharges were stopped, the secretion of milk suspended, and the whole system appeared to be rapidly approaching a state of dissolution. Thus the patient, from a hopeful condition, was in a few hours reduced to one of despair. The succeeding day, the lips, gums, and skin, became pale and waxy; the pulse one hundred and twenty and wiry, with all the phenomena of a distinctly anæmic patient.—Indications. 1st. To relieve the tendency to syncope. 2d. To sustain the system until it could be brought under the influence of medicines.

The syncope, which came on at irregular periods, varying from one to three hours, was immediately relieved by a glass of champagne wine.

The system was sustained by using London porter *ad libitum.* For two weeks, sweetened porter and wine were the only aliments which the stomach would bear.

The alvine discharges were corrected as soon as possible, by repeated doses of Hyd. cum Creta, Pulv. Rad. Rhei, Pulv. Ipe. et Opii. The urinary secretions were corrected by an infusion of Barosma Crenata. The porter acted as a tonic and prophylactic.

The anæmic condition was corrected by the administration of the various preparations of iron. The Ses. Ox., Mur. Tinc., and some of the more concentrated preparations were tried, but the stomach was so sensitive to the impressions of iron, that they were soon ejected, and the treatment necessarily discontinued. Several other tonic remedies were resorted to, but attended with no better success. During this period the stomach would retain the porter and wine, but would in a short time throw off any other food, however prepared.

There was but little tenderness over the bowels; nothing to indicate an active inflammation in any of the viscera. The patient daily became weaker, the pulse more frequent and thready, the countenance cadaverous and anxious, the skin occasionally cold and clammy. Notwithstanding the secretions were more healthy, the anæmic symptoms increased, and everything foreboded a speedy dissolution. At this extremity we resorted to the following preparation:

℞. Argent. Nit. chrys. grs. x.
Ex. Coni. Mac. grs. xx.
Syr. Tolu, ℥ij.
M.

Give a teaspoonful every six hours in rain, or boiled water.

The prescription acted like a charm, in quieting the irritability of the stomach. It gave new life and energy to the system.

The third day after commencing the use of the Nit. Arg. she felt a desire for food, which was relished and retained.

The appetite daily improved, the strength gradually returned, and the patient fully recovered. She has since given birth to a healthy child without any recurrence of anæmia.

Case 2.—Mrs. J——, æt. 26, confined with her third child, labor healthy and not tedious. Had been troubled with intermitting fever, with some tendency to anæmia, before confinement. For four days after delivery improved rapidly, and everything bid fair for a speedy recovery. At the close of the fourth day she felt greatly exhausted, and a general lassitude throughout her system. When called, I found her much prostrated, with an anxious bleached face. The heart was beating rapidly and laboriously, amounting to severe palpitation of that organ. The bowels were loose, discharging a white, yeasty, fetid matter; the tongue furred and white, indicative of great derangement in the biliary system. Increased anæmia rapidly supervened, and in two or three days the following symptoms were present.

The pulse varied from one hundred and twenty, to one hundred and forty a minute, the lips, gums, tongue, and the whole body, were pale and waxy. The appetite, which before was good, was entirely gone; the thirst was not urgent; the veins could no longer be traced upon the hand, nor filled by pressure.

Tinnitus aurium was especially troublesome, and the bruit de diable was so prominent, that it was audible when sitting near the patient.

The dyspnœa was paroxysmal, and always attended with severe palpitation of the heart. During these paroxysms, which occurred every three or four hours, the doors and windows were necessarily kept open; and so severe did the paroxysms sometimes become, that dissolution appeared inevitable.

The immediate symptoms in these paroxysms were relieved with a glassful of champagne wine, while for a permanent tonic the following was given:

℞. Ammoniæ Carb. ℈j.
Quiniæ Sul. grs. xx.
Camphoræ grs. xv.
Sacch. Alb.
Pulv. Gum Acac. āā ℥j.
Aquæ ℥iv.
M.

Give a tablespoonful every three hours. In two days the paroxysms were much relieved. The treatment for the anæmia was the same as in the previous case:

℞. Argent. Nit. chrys. grs. x.
Ex. Coni. Mac. grs. xx.
Syr. Tolu, ℥ij.
M.

Give a teaspoonful every six hours.

Under this treatment, the patient fully recovered, and has since given birth to a very healthy child, without any return of anæmic symptoms.

I have had repeated opportunities of testing the efficacy of Nit. Argent. in anæmia, and am satisfied it is as much a specific in this disease as are the preparations of cinchona in intermittents.

Bi-Monthly Periscope.

SURGERY.

1. Treatment of Aneurism by Manipulation.—Since the report of Mr. Fergusson's case (Med. Times and Gazette, Nov. 15th, 1856), of aneurism of the subclavian artery, in which he proposed a new method of treatment, which consisted in squeezing the tumor, with a view of breaking up a portion of its fibrinous contents, and forcing it to the distal end of the tumor, or the artery leading from it, we notice two cases cured by the same plan, which we subjoin. The first is reported by Mr. Robert Little (Med. Times and Gazette, May 23d), and the second by Prof. George C. Blackman, of Cincinnati (Western Lancet, June, 1857).

"D. M., an albino, aged 53, admitted into the County Donegal Infirmary on the 6th October, 1855, with an aneurism of the right subclavian artery, gives the following history of his case: States that having been in the habit of dealing in eggs and fish, which he usually carried through the country in a basket suspended on his back by means of straw ropes, through which he passed his arms, he first felt pain in the right arm in the preceding month of March, which gradually became so severe, that in the month of May he was frequently obliged to sit down on the roadside and remove his burden for a time. Soon afterwards he discovered a tumor above the right clavicle, directly corresponding to the site on which one of the ropes pressed, which also became painful after a short time; and in the beginning of July he perceived 'a beating in the lump,' which then began to enlarge rapidly. In the month of August he says, he had such a feeling of drowsiness, that for a fortnight he slept the greater part of each day and night, during which time he lost his appetite and took nothing but milk, and at this time he was unable to bend his fingers. Sleep then suddenly deserted him, and he declares that for a fortnight prior to his admission into the Infirmary he did not sleep a single hour, owing to the intensity of the pain in the tumor and along the arm.

"Symptoms on Admission.—A tumor equal in size to the largest goose egg occupies nearly the entire of the supra-clavicular region, extending from the clavicular attachment of the sterno-cleido-mastoid to the acromial end of the clavicle, which has a strong pulsatory movement, that is visible from the most remote part of the ward, and is accompanied with a loud *bruit de soufflet;* it is soft and compressible, and is red and somewhat inflamed on the surface; from which circumstances Dr. Greer, under whose notice the patient first came, greatly feared the aneurism would have burst. There is no appreciable dulness on percussion under right clavicle, but the respiratory murmur is not as distinct as on the opposite side however, this may arise from its being somewhat masked by the loud bruit on that side; the superficial veins of head and neck are considerably enlarged, but he does not suffer either from cough, dyspnœa, or dysphagia; tongue tolerably clean, pulse at wrist 80, and regular; appetite not good. His chief source of complaint is a severe and constant pain extending from the tumor down the right arm as far as the tips of the fingers, which he says is most acute about the middle of the humerus, and he is constantly compressing this part with the other hand, conceiving that it gives him some relief. At first he got sedatives, had cold applied to the aneurism, and each night had a full anodyne, which treatment somewhat moderated the violence of the pulsation, and made him feel more comfortable, and after a few nights, when the anodyne had been considerably increased, he got some tranquil rest.

"In December, he was bled twice from the arm, and ice was kept constantly applied over the tumor for three weeks, without any manifest improvement, except that the redness and inflammatory appearance of the integument covering the aneurism have completely disappeared; in other respects, the symptoms remain unaltered. Having seen the report of Mr. Fergusson's very interesting case, I resolved to follow his suggestion in this apparently hopeless one, and I must confess I did so without any very sanguine expectation of success. Accordingly, on the 1st of January, 1856, by making gentle but steady pressure with my thumbs alternately over the aneurismal sac, I succeeded in displacing some of the coagula, and directing them towards the distal end of the artery. No other local treatment was adopted, but he was ordered the persesquinitrate of iron internally. For the first two days no change was perceptible in either the tumor or the arm; but at the third day the pulse at the wrist was manifestly weaker, and the arm somewhat colder than the opposite one. These symptoms gradually increased up to the tenth day after the manipulation of the sac, when no pulsation could be felt in either radial, brachial, or axillary arteries. The tumor itself had now become more solid, and the bruit and pulsation were both diminished; the violent pain in the tumor and along the arm has also decreased, but now he complains of a sensation of coldness over the right shoulder and scapula, and of a severe pain extending along the side of the neck and back of the head, which increased in severity for a month, and the arm became greatly wasted, and partially paralyzed, retaining very little sensation and scarcely any power of motion.

"*March.* All pulsation in the aneurism having now ceased to be visible, pressure was applied over it.

"*November.* Both bruit and pulsation have completely disappeared; the aneurism is not more than one-third its original size, and is quite solid; the anterior edge of clavicle feels thin and sharp, from the absorption of its upper surface, caused by the pressure of the sac, and the pain alongside of head and neck, heretofore so much complained of, has completely subsided. The arm has regained its natural temperature, and, although still considerably attenuated, he can use it tolerably well, sensation having also returned to it. A very slight pulsatory wave can now be felt in the radial artery, but not in either brachial or axillary. Two superficial arterial branches, of considerable magnitude, can also be traced, running in a transverse direction across the remains of the aneurism, one immediately above the clavicle, the other somewhat higher up.

"*March*, 1857. Having again admitted the patient into the Infirmary within the last few days, for the purpose of examining his condition, the absorption of the tumor is steadily progressing, being now not larger than a walnut. Pulse at the wrist somewhat stronger than at last report, but still not to be felt in either brachial or axillary. Sensation and motion are completely restored to the arm. He is free from all pain, and says he feels perfectly well, and intends resuming his former occupation. I may mention that most of my medical brethren in this locality having taken a deep interest in this case, and visited him from time to time while under treatment, have also seen him since his last visit to the Infirmary, and agree with me in considering the cure to be most satisfactory and complete."

"John Austin, æt. 28, a native of England, entered the Commercial Hospital on the 7th of April. Four months previously, he felt a sharp pain along the course of the femoral artery at the junction of the lower and middle third of the thigh, and for the first time he observed a pulsation in this region. He had worked for many years as a file-cutter, and had been accustomed to use a small anvil, which was held between his thighs. A swelling was soon detected, and this continued to increase until the time of his admission. There was a space of about three inches between the upper margin of the tumor and Poupart's ligament, and measured along the axis of the limb, the swelling was five inches at its base. The aneurismal bruit was very distinct, and the pulsations perceptible across the amphitheatre. Compression at the groin caused the tumor to diminish considerably in size, and it would immediately regain its former dimensions when the pressure was removed. The patient complained of numbness and other painful sensations in the knee, leg, and foot. As the tumor was daily increasing, and as there was no other indication of disease of the arterial system, I determined to bring the patient under the influence of veratrum viride, in order to subdue the force of the circulation. From the time of his admission he was kept on a low diet, and cathartics were administered. On the 11th, I ordered six drops of the tincture every three hours. On the morning of the 12th, I found that the pulse had been reduced in frequency from 94 to 65. At 10 o'clock A.M. of this day, he was brought before the class, when with my thumb I pressed forcibly on the aneurismal sac, for the purpose of dislodging a portion of the fibrinous layers, hoping thus partially to obstruct the artery, and to favor the further deposition of fibrine in the sac. Skey's tourniquet was now applied with moderate force between the tumor and Poupart's ligament. The progress of the case may be learned from the following record kept by Dr. N. J. Sawyier, the House Surgeon:

"At 12 M. his pulse being 110, full, strong, and bounding, he was bled ℥ix. Pulse came down to 50, soft and regular, and continued low for several days. (The following are extracts from the Case-Book):

"*April* 13, A.M. Suffers no pain nor uneasiness at all; slept well last night. Entire limb diminishing rapidly in size. Kept the apparatus tight. General health good; whenever any untoward symptom arose, it was promptly met, and the patient kept in a good condition. At intervals, the shooting pain was felt in the tumor, but it gradually subsided altogether.

"17*th.* Prof. Blackman ordered the tourniquet to be taken off, the bandage reapplied from the toes, up over the tumor, upon which it was to be tightly wrapped, and the patient to be bled, after which the following was administered: ℞—Antimon. and potass. tart. gr. $\frac{1}{4}$; pulv. opii. gr. $\frac{1}{8}$. Sig.—Take every three hours. Patient's pulse came down to 65, soft and regular.

"19*th*. *Souffle* ceased entirely, but the pulsation continues, though it is very weak.

"22*d*. Pulsation in tumor has ceased altogether.

"25*th*. Is in fine spirits; has no pain, and wants to walk about. General health very good.

"30*th*. Has walked some steps, and complains of nothing but weakness.

"*May* 21. The pulsation in the tumor has never returned. The femoral is firmly plugged as far as the origin of the profunda, and in the popliteal space the pulsation of the artery is hardly perceptible. The tumor is daily decreasing in size, and the patient is anxious to leave the hospital and resume his business."—*American Journal of the Medical Sciences*, July, 1857.

2. PROFESSOR BOECK ON SYPHILIZATION.—It is a fact well known to all, that M. Auzias Turenne, in trying to induce syphilis in animals, observed that they, after a number of inoculations, became, as it were, proof against the syphilitic virus. He called the state which was induced in the body by the name of syphilization, and M. Sperino, being made acquainted with the observations of M. Auzias, immediately adopted the idea of using a continued inoculation with the virus in order to cure syphilis, an idea which was so speedily realized, that it seems as if both had at the same time used syphilization in men. At first the thing looked so absurd, that all concerning syphilization was considered as mere fancy. Most did not find it worth thinking of, and thought right to reject it only from theoretical reasons, as if experimenting for one's self, or even looking at the experiments of others, would make one an accomplice in spreading fantastic dreams; such being the opinion generally held as to the doctrine of M. Auzias Turenne. Now the matter has changed. Medical men have already ventured, in more places than one, to repeat the experiments of M. Auzias; and it has been found that what was termed nonsense was only the plain truth. A new proof has been given, that it is better to be cautious in judging of anything *à priori*, as nature does not always follow the way that we point out to her in our study. On the contrary, she wills that we shall find out her ways, however difficult it may be for us.

As is often the case, one only saw the dark side of the question. The chief points of it were forgotten in the absurd idea of preserving everybody from an illness which is, in general, only for those who attract it to themselves. It was forgotten that the system, after a number of inoculations with the syphilitic virus, becomes proof to it. In fact, persons had been to that degree irritated against the said abuse of syphilization, that they did not think of the physiological side of the inquiry, which was so much the more extraordinary, as it was not here the question of any theory but of a fact, of which everybody might convince himself. It can be readily shown that, after a number of inoculations, it is at length impossible to produce any effect. The same result then ensues, whether the inoculation be made with the syphilitic virus or with water. The organism, after such a number of inoculations, seems to have acquired the same relation to syphilis as it does to vaccine lymph after a single inoculation with this latter poison. This fact has been proved in more than a hundred persons who have been treated here by syphilization, so that I must consider it unnecessary to enter more closely upon that matter. This immunity takes place gradually, the ulcers being smaller after every succeeding inoculation, until at length the pustules are quite abortive, or the result is an absolutely negative one. This diminishing by degrees may suffer some modifications, on which I shall, however, not dwell here. I have spoken of them before. The result—complete immunity—always will take place; it will take place in all individuals. This, is a rule without exception. The immunity may take place earlier or later, the susceptibility for the syphilitic virus being different in different individuals; and besides, I suppose the intensity of the syphilitic poison to be dfferent—a circumstance that will occasion a considerable difference in the time necessary to produce the immunity.

Every physician of any experience must have observed that mercury is far from being a satisfactory remedy. I will not speak about the mercurial treatment being disagreeable to the patient, especially when those preparations are used which produce salivation—it is so inconvenient to the sick person, that he is obliged to be within doors, to be in bed; that after the treatment he is very sensible to cold and humid air. All this would not be worth mentioning, if mercury was a certain remedy, and harmless to the constitution; but this is not the case. Mercury is so very far from being a certain cure, that, on the contrary, it is a doubtful question whether mercury is at all a remedy for syphilis. This doubt is no new one. It is not brought forward just now in order to support another line of treatment. Authorities on the disease have long held it. I shall only name Ricord and Cullerier. But let us not protect ourselves with authorities; let us hold to that which every day's experience proves. For instance, let us see what is the proportion of relapses in our hospital at Christiania. By closely examining the reports, we have found that the number of relapses is about twenty-five per cent. of the whole number of individuals treated. If now we remember that a great number of relapses do not take place until after some years—that many of these relapses never come to be treated in this hospital—that very often we find syphilis developed to its highest degree in children, whose parents have been treated with mercury, and are apparently in good health—that we often find relapses, in the form of osseous affections, in the surgical wards; of apoplexies, and incomplete and complete paralysis, in the medical wards of the hospital; and in the form of mental maladies in our asylum for the insane—then I should think the percentage number will be a very large one. I might very well add here the many scrofulous and tuberculous affections which, in my opinion, certainly originate in syphilis—nevertheless, I do not mean to say that I think syphilis to be exclusively the cause of these maladies; but by doing so I should enter on debatable ground, which is not at all necessary for proving that mercury never produces the result we should expect from a remedy, that very often it is quite the opposite of a remedy, that it is a pernicious, a dreaded agent.

If it be evident, as I think it is, that the remedies hitherto used against syphilis are uncertain, and even pernicious, then it is not only allowable, it is our duty, to try the new one that is offered to us. To me the only question was—in what cases syphilization might be used. I have already mentioned that I always thought *prophylactic* syphilization to be an absurdity. Therefore, I shall not dwell any longer on it. The question is—whether syphilization ought to be used in all cases where syphilis exists? This question is easily answered. I cannot predicate with certainty if all those who get primary syphilis will get constitutional disease. The simple chancre is not in general accompanied by any constitutional affection. The

Hunterian one is certainly a consequence of a constitutional syphilis, but we may easily deceive ourselves in respect to the induration. Therefore, I never use syphilization where there is merely primary syphilis. It is not until the constitutional symptoms have appeared that I consider this method allowable, for then I am convinced that I do not introduce anything into the organism but what is there before. I cannot double a malady already present. So I am quite certain not to do any harm to the patient.

This may be the fit place for mentioning shortly how I produce syphilization. Without any other preparation than a bath, or in my private practice even without this, I apply on each thigh, and on each arm, or on the sides only, three inoculations in every one of those places, with matter taken from a primary ulcer, or from an artificially produced one in a person who has been syphilized. I choose the first-named places for those who are lying in the hospital, but I inoculate the sides of those who, during syphilization, are going out attending to their business. However, I must add, that I never confine my inoculations exclusively to the sides. If they do not prove effectual there, I apply them on the thighs, on which we shall almost always find the ulcers to be larger, deeper, and of a longer duration. Therefore, I think this place the best, and never fail inoculating there. Every third day I inoculate anew. As long as the last inoculations produce pustules, I take the matter from these. In some cases I have always tried to take the virus from the first-made inoculations, thinking to find there the strongest matter, and thereby, perhaps, be able to achieve the cure in less time; but the cases in which the treatment has been accomplished in this manner are so few, that I should not venture to draw deductions from them. In syphilized children, I have only applied one inoculation on each thigh, and generally also on each side, every third day, or perhaps at longer intervals. The ulcerations produced in this manner may occasionally become phagedenic in grown-up persons. Many wounds may be united into one, and form a large ulcerating surface. This, however, does not signify in the least, provided the treatment be continued without being alarmed. The inoculations are a certain remedy against the phagedenic ulceration. In children, the ulcers are generally so small as not to cause any inconvenience. It is only in cases which have been mercurialized before that I have sometimes seen the artificial ulcerations enlarge, yet never to an alarming degree.

In some instances the inoculated person becomes proof to one sort of virus. I then take the matter for inoculation from another, preferring a case which has had a different origin; this then proves effectual. But sometimes they become proof to this also, and I then seek for a third source; and thus I go on as long as any matter at all will operate.

Moreover, it is worth noticing that immunity does not occur, and the syphilitic phenomena do not vanish, earlier in children than in grown-up persons. The time necessary to produce immunity is about three months. However, it depends upon the number of inoculations that may be employed—upon the symptoms that have taken place; and in children it seems to depend upon their syphilis having been acquired or inherited. The quality of the virus even may not be without influence. When immunity is attained, the syphilitic phenomena generally vanish. However, should this not be the case, it should cause no uneasiness, as they will certainly vanish within a short time, without any remedy being used.

It is not uncommonly the case, that during syphilization a new eruption takes place; but this always exhibits symptoms of the same nature as were observed at the beginning of the process of syphilization. These eruptions need not cause any anxiety. The operator may quietly go on inoculating, and things will proceed as in other cases. One phenomena that I have often seen develop itself under syphilization is iritis. This has been very intense in some cases; but I do not make it the subject of any special treatment, either antiphlogistic or derivative, and the result has hitherto been always favorable.

The syphilitic poison does not run a rapid course, as was known a long time before we heard anything of syphilization. We often see the constitutional symptoms not to show themselves until after some months. Therefore, there is nothing astonishing in the fact, that the curative results of inoculation do not show themselves until after some time.

But if even by syphilization alone we cannot effect a cure in all cases, it is, nevertheless, an indispensable remedy. Patients who have been nearly destroyed by syphilis and mercury may be restored by it to health. The cases belonging to this class may present very different aspects, and the effect of syphilization on them, of course, also different. I therefore think the best way to give my view of the matter is to arrange them in separate groups, viz.:—

1st. The early constitutional cases, recently treated with mercury, in which the same symptoms have reappeared. Here syphilization will, in some cases, produce as certain an effect as in cases not treated before, but we oftener find some irregularity. The phenomena vanish and return again. That which I have said takes place in the individuals not mercurialized is repeated here; namely, it is always the same forms which existed at the beginning of the syphilization that return.

2d. The affection may be still confined to the cutaneous system and the pituitous membranes, but the tubercular forms may be predominant, ulcerations on mucous membranes may go deeper, or the affection may be in the subcutaneous areolar tissue. We may even have the *tubercular serpigenous syphilide.** These affections are more slowly acted upon. The reason for this may partly be found in the fact, that these forms are often rather of old standing. Mercurial treatment, iodine, &c., have been used against them, and we also often see bad forms show themselves within a year after the primary affection. This seems to depend on individual constitution, for it often has no relation to the quantity of mercury, or the care taken of the patient during the treatment.

If, in these cases, new eruptions come out during syphilization, we shall always find them to be more superficial than the earlier affection, if even they have the same form as that which existed at the beginning of the syphilization treatment. It happens in these cases, especially, that the inoculations, after a small number of them have been made, do not produce any effect; then we must give iodine, after which we shall again have larger pustules and ulcers.

3d. Affections of the osseous system. Here syphilization hardly ever seems to produce any effect. But when iodine has been used earlier, producing results of only a short duration, then syphilization, united with iodine, seems to relieve the nocturnal pains more certainly; but osseous tumors remain unaltered by syphilization.

---

* Radesyge.

4th. Affections of the nervous system—hyperæsthesia and incomplete and complete paralysis—may occur:—First, In combination with other syphilitic symptoms, and in those cases I have seen them diminish under the influence of syphilization. Secondly, They may be the only phenomena left as the result of the mercurials used against the primary syphilis; and, under these circumstances, we see little or no effect from syphilization. However, I must observe, that all the cases of that sort which I have hitherto treated have been of old standing, and have for a long time been treated with iodine, &c.

5th. Mental maladies, finally, may be the result of the mercurial treatment. I have had no opportunity of employing syphilization in such cases, but I consider it well worth trying. The idea that syphilization should be the last refuge seems to be quite as if quinia should not be given in the beginning of an intermittent, but that the system should be first injured by different other medicines, and then quinia given afterwards.

As the result of the great many observations made with syphilization, it seems sufficiently proved that the syphilitic virus heals constitutional syphilis, and that it cures the malady without doing any harm whatever to the organism. On the contrary, we see that the uneasiness, the rheumatic pains which often accompany constitutional syphilis, vanish under continued inoculations.

The immediate effect of syphilization upon the organism is generally also very favorable, but there are some who have thought that it may, perhaps, operate perniciously in future time. To this I have only to say, that I can show many individuals discharged from hospital more than three years ago who have remained in uninterrupted good health, and that in not one of the persons treated in this manner, can I point out any unfortunate result whatever which could be ascribed to syphilization.

If, finally, I were to comprehend, in a few words, my opinion about syphilization used as a curative remedy, I should say—

1. Syphilization is undoubtedly useful against syphilis; it is the only certain remedy that we know, and it is not pernicious to the organism: mercury, therefore, ought to be banished as a curative remedy.

2. Syphilization is not so certainly useful against *mercurialized syphilis*, but it ought always to be tried. It often does cure it entirely, and it at least does not fail to do some good in the greatest number of cases.

3. The application of syphilization against other maladies than syphilis ought to be tried with the greatest possible care and exact observation.—*Dublin Quarterly Journal, Feb.* 1857.

3. Case of Excision of the Os Calcis, by an Improved Method of Operating—Rapid Recovery. By *Clifford Morrogh*, M.D., of New Brunswick, N. J.—On the first day of October, 1854, I was requested to attend Mr. Elsworth Dansbury's son, for necrosis of the right os calcis. The patient was twelve years old, of fair complexion, and bright intellect; he was very much emaciated from the disease; both parents were healthy, and seemed robust. They gave the following history of his case:—About nine months prior to my seeing him, the boy got his foot slightly squeezed between two railroad cars; he did not complain much at first but, after the lapse of a week or two, the ankle and foot became swollen and pain-

ful. Medical assistance was sought, but the disease increased, and several abscesses broke, leaving cloacæ, which continued to discharge. The ankle continued very painful, and caused intense suffering when placed on the ground; hectic fever supervened, and the boy became peevish, fretful, and very much reduced. This was his condition when I first saw him. The integument round the ankle was livid, glazed, and tumid; it was perforated by three or four fistulous openings, which discharged an ichorous pus; various parts of the calcaneum could be reached by a probe through these openings. It was felt to be denuded and roughened; no other bone could be felt in this condition, although the swelling extended for some distance beyond its limits. I proposed the operation of excision, as a means of avoiding the humiliating alternative of amputation. The parents readily assented; and on the 24th of the same month, the operation was performed in the following manner, Dr. A. T. Taylor, of this city, Dr. Pool, of South River, and several of the patient's friends being present:—The boy was placed on his left side, on a table, and rendered insensible with chloroform. A vertical incision was made over the posterior extremity of the os calcis, extending from the superior to the inferior surface, and continued along the inferior surface of the bone, to its articulation with the cuboid, taking care to keep outside of the plantar artery. The incision was then carried upward to a short distance above the superior surface of the bone, without wounding the peroneal tendons; this incision described a square flap on the outside of the foot, which was dissected up, and the tendo-achillis separated close to its attachment. A strong narrow scalpel was then introduced under the peroneal tendons, and made to separate the calcaneo-cuboid articulation, without severing the tendons, or the artery beneath. The knife was then introduced between the upper surface of the bone and the astragalus, and made to cut the interosseous ligament, and gradually separate the articular surfaces. The calcaneum was then rotated, so as to bring its upper surface outward till the internal made its appearance, when the soft structures were carefully separated, principally by the handle of the scalpel, thus completing the operation. After this mode of proceeding, we had the satisfaction of seeing the posterior tibial and plantar arteries pulsating in perfect integrity, while the tendons of the peroneal muscles, as well as those of the flexor longus policis, flexor communis digitorum, and tibialis posticus were uninjured. No ligatures were required, the flap was approximated, a piece of flat sponge applied over the wound, and a gutta percha splint, previously moulded over the instep so as to keep the foot extended. The operation was followed by a total cessation of pain and febrile action.

The boy improved rapidly in health; the wound healed mostly by adhesion, the rest by granulation. The cavity partly filled up by what I supposed to be fibro-cellular tissue; and in two months after the operation the boy could run swiftly. At the present time, he wears a small pad in the shoe under his heel, and does not experience the least inconvenience from the deficiency of the bone.—*N. Y. Journal of Medicine* for July, 1857.

4. SELECTIONS FROM THE UNPUBLISHED MANUSCRIPTS OF THE LATE ABRAHAM COLLES, PROFESSOR OF SURGERY TO THE ROYAL COLLEGE OF SURGEONS OF IRELAND. Edited by his Son, *William Colles.*—ON DISEASES OF THE GENITAL ORGANS AND RECTUM; and on BRACHIAL ANEURISM.—In the present communication, I have selected some cases presenting peculiarities in appearances or symptoms, and sometimes leading to improper surgical interference. These I think

useful to record, as they show that the surgeon cannot be too cautious before coming to a conclusion as to the nature of a disease, or the remedies to be adopted, and that he should be aware not only of the ordinary course of nature in the various affections, but should also recollect that she sometimes deviates from the regular course, and presents anomalous appearances which may puzzle the most experienced. I also add some selections and observations on cases of disease of the rectum; the first two of which present some useful suggestions.

Paraphimosis relieved.—CASE I.—January 24, 1814. A young lad, aged 15, had drawn back the prepuce on Thursday, and it remained so till Monday evening. I made two or three ineffectual attempts at reduction by force; then tried by squeezing the base of the glans to reduce its size; but I here also failed. I now thought I should have to divide it, and proceeded to the operation. On passing the director under the stricture, it struck me I might raise the skin, and depress the base of the glans. Passing the point of the instrument under the prepuce, at the right side, I raised it up, so as to be able to catch the skin between the finger and thumb; then, passing the director to the left side, I found that in its progress it raised up the skin, and brought it forward over the glans, and the reduction was effected without force.

CASE II.—January 10, 1815. A man with paraphimosis applied; it had occurred three or four days ago, and prevented his having any sleep for the last three nights. Immediately after connection he endeavored to draw forward the prepuce, but could not succeed. The stricture is at some distance behind the corona glandis, and is very tight; the line of stricture is ulcerated, and of a blackish color; the skin, both before and behind the stricture, is much swollen. This appeared a very bad case, but was reduced with great facility.

I made the patient lie on the floor, on his back, and, kneeling at his right side, I passed the silver director under the stricture towards the right side, and, while the point lay under the stricture, I pressed down the swollen part of the prepuce and corona glandis with the stalk of the instrument; then, pressing this portion backward, I found it was easily pushed back beyond the stricture. In this manner, passing the director from the right to the left side, I quickly succeeded in removing the paraphimosis.

I think an instrument might with advantage be employed in such cases, somewhat of the shape of a shoehorn, only not much hollowed on the surface which is to be applied to the glans penis.

I next record a case of rupture of the urethra, and another supposed rupture of the corpora cavernosa penis, in consequence of awkward, ill-directed efforts at connection.

CASE III.—*Ruptured Urethra in Coitu*, *fatal.*—June 10, 1812. Called to Mr. K——, aged about 38; flabby constitution, full habit, and prone to obesity. Married two months. Last night, on having connection, he hurt himself; it would seem that the penis had pushed against the bones of the pubes. At the instant he felt severe pain, and as if something had been broken; next day the integuments of the penis and scrotum were full, livid, and a small swelling was visible on the left side of the penis, anterior to the scrotum. This was hard and circumscribed. Passed urine, not more than an ounce, mixed with blood, and attended with scalding pain at the tumor, urine drawn off by catheter.

11th. The great pain attending micturition prevented his passing more than a few drops of urine; again drawn off; tumor same size.

12th. Tumor much increased in size; some fetid pus, on pressure, passed from the urethra; gum-elastic catheter passed, and retained; he was feverish; in the evening he had a severe rigor.

13th. Fever, and discharge, mixed with air, increased.

15th. Made an incision into the tumor, and let out a mixture of pus, urine, and blood mixed with air; catheter again passed and retained; rigors occur daily, increasing; pain in head; abdomen tympanitic; desponding; countenance yellow.

20th. Died unexpectedly. The urine passed by urethra and also by the opening in the abscess for the last two or three days on withdrawing the catheter.

CASE IV.—*Tumor in the Penis.*—December 12, 1808. Mr. G——, aged 38 last March, while in the act of copulation pushed against the bone of the pubes, and felt he had hurt himself; he observed a lump come on the dorsum penis, and the organ curved upwards in erection.

On examination, a flat, square lump, about the middle of the dorsum penis, was found lying under the vena superficialis penis, firm in structure; it appeared to be movable. This was, however, doubtful. This lump has increased, and, in proportion to its growth, renders the curvature in erection greater, when he feels as if the penis were bound by a cord; does not know if the tumor increases on erection.

Ordered blistering, and to take pills of hemlock and calomel.

I find also three or four cases recorded of tumors in the corpora cavernosa penis, but no cause assigned for their appearance, and no treatment successful in removing them.

The Case No. V. is worthy of being recorded. The two following cases represent the testes not in the natural position.

CASE V.—*Œdema* (*Elephantiasis*).—April, 1833.—Mr. G——, aged 48, for four years past has had a swelling of the prepuce and skin of the penis; it was not discolored till lately. The prepuce is distended, so as to form a curve anterior to the glans; the size of the penis is considerably increased, the swelling rather hard, but allows of pitting; the scrotum is also thickened anteriorly, not posteriorly; the skin of the penis is of a purple color, and shines; no pain or inconvenience, except that he cannot have connection; the general health is very good; never was in a warm climate; is a married man, with children. I only recollect one other case at all like this, in an hospital patient.

CASE VI.—*Testis misplaced.*—Yesterday I saw Mr. K——, aged 36, who had the left testis in the perineum, with one edge above, the other below; the right testis is lodged in the scrotum, and is in every respect natural; the left is at present inflamed, either from a hurt received on getting down off a public coach, or from an injury by a girl of the town; the integuments covering it are not loose, and he seems to suffer severe pain from it, particularly on the anterior spine of the ilium.

CASE VII.—Mr. S——. That portion of the integuments corresponding to the scrotum in its color and corrugation is very small, not larger than a child's, and this does not receive the testes; these are lodged in a soft, smooth, white skin at the side of the scrotum, and are of a full size; the scrotum appears as a small cone on the top of the smooth skin. He has not any children.

Those who have one testis in the abdomen generate, of which I recollect many instances; but I do not recollect an instance of those who had both testes in the abdomen generating.

I find two or three cases where a tumor on the cord was mistaken for hernia, and a truss worn for some time, but they present nothing extraordinary. The next is a case of hydrocele cured by injection of its own fluid.

Case VIII.—*Hydrocele injected with its own fluid; cured.*—September 13, 1834. This day I injected a hydrocele with its own fluid, having allowed it to remain a short time in the basin.

August 4th. The case went on in every respect as those injected with wine and water; the inflammation fully sufficient, yet moderate.

I next give a curious case of supposed hermaphroditism.

Case IX.—*Tumors mistaken for Inguinal Hernia.*—January 31, 1828. Miss W——, aged 26, applied three months ago concerning a tumor in the left groin, which her mother told me was a rupture, and I believed it to be one, and advised a truss; found great difficulty in getting a truss to fit. Last month she applied concerning a similar though smaller tumor on the right side, which I examined two or three different times without being satisfied as to its nature.

This day I find the tumor on left labium, to which the truss was applied, to be about the breadth of three fingers in its long diameter, that of the right side the breadth of two fingers in its length; they are both very movable, and can be pushed down more than one half the length of the labium without any pain; but on attempting to force either into the ring she suffered much pain. The tumors are smooth, elastic, as if fluid were contained in a firm sac; in walking she feels no uneasiness at first, afterwards they become uneasy; in coughing no protrusion is felt against the fingers applied to the inguinal rings. General health good.

I suspect the tumors to be testes.

June, 1832. Tumors smaller than male testes; the vessels of the cord can be distinctly felt; squeezing them causes uneasiness; the vagina can scarcely admit the finger, not more than an inch in length. She admits that she never menstruated. In place of the male penis was a body resembling the glans penis, except, on turning it up, it is found divided in its entire length: the urethra is seen at a considerable distance from this.

Case X.—*Inguinal Hernia.*—January 29th. Assisted in operating on a young man, aged 20, for inguinal hernia of the right side. There was a great doubt as to the nature of the disease, for the tumor most strikingly resembled hydrocele of the tunica vaginalis, and the test of the candle showed it to be quite transparent. Still, I was satisfied that the intestine was down, and not to be returned by taxis. The sac was very thick; it proved to be congenital hernia. On passing the finger into the neck of the sac it was found to pass up very high before reaching the abdomen; high up in this was the stricture; being divided, the bowels were easily returned.

I would now direct attention to a few cases where there were doubts as to the nature of the disease, as to whether it was hernia or hydrocele, and even an operation undertaken for the relief of the symptoms.

Case XI.—*Hydrocele resembling Hernia.*—April 28, 1827. A middle-aged man presented himself with a hydrocele, large and oblong, being at one point more prominent to the eye and thin to the touch; it rose up so high along the cord as to resemble hernia. On pressing it while he stood, a part seemed to return with the sensation of an intestine. When laid horizontally, I pushed up the whole, and found the ring so wide as to admit two fingers. I now made him stand up while the fingers were in the ring; the tumor gradually returned below, yet the fingers did not feel anything passing down. On his coughing, the tumor descended with the same sort of burst as that of an inguinal hernia. I drew off three and three-quarters imperial pints of straw-colored fluid.

CASE XII.—*Hydrocele mistaken for Hernia.*—Monday, January 12, 1824. Called by Mr. R—— to a child 18 months old. He told me he had been often called to replace a congenital inguinal hernia; generally he succeeded, but as the testes had not descended, a truss could not be applied; now he could not succeed; the intestine was down since Saturday. I could get only a confused account from the nurse; neither the state of the abdomen, the countenance, nor the stomach, seemed to require immediate operation; besides, I had my doubts of hernia, for, on examining the tumor, I felt at the lower part a body which I suspected to be the testis, nearly double the size of the opposite. On passing the finger and thumb to the ring, I did feel the tumor as passing up through the opening into the abdomen. However, Mr. R——'s assertions prevailed. Calomel, half a grain every hour, and enemas.

At 11 o'clock at night I was called on to see the child, who was much worse; vomited everything, and had no stool, except some hardened fæces from enemas; the belly was not painful to the touch, nor swollen; face pale, and eyes sunken. Under these circumstances I agreed to the operation.

Mr. R—— cut cautiously, and spent time in separating the coverings of the sac; laid bare the parts near the ring, and now was certain no intestine was in the opening; he opened the lower part and let out water; slit up the sac on a director, and saw the testis lying about the middle of the sac; the director was then passed up the canal into the abdomen; no intestine was there. The wound was united by stitches and plaster.

Wednesday. Going on well. Had griping.

Had I been called alone to this case, I could not have suspected strangulated hernia from the feel of the parts. The test of a candle was not admissible, from fat and flatness; fluctuation could not be felt from tenseness of the tumor.

January 30th. Completely recovered from the operation.

CASE XIII.—*Operation for Hernia in case of Inflamed Testis.*—November 27, 1806. Saw a patient of Mr. ——, a man aged about 40; his countenance sunken; a dark circle around the eyelids; great tossing; pulse weak and small; skin cold; frequent vomiting, hiccup, pain in the right side of the abdomen, which was not tense, but was sore to the touch. There was a tumor in the right groin less than an egg; near the pubes the integuments were red; it resembled a venereal bubo; the right testis was small, and could not readily be discovered. He said he sometimes pushed up the testis into the abdomen with the intestines; there was great difficulty to ascertain if it were femoral or inguinal hernia, as we could not satisfactorily feel the ring; on trying the taxis a gurgling noise of a portion of gut was heard, but we could not get up the hernia. Tobacco enema caused a desire to stool, but the enema did not pass; the vomiting was without any straining; it was merely a slight effort to spirt out from the mouth; he ejected about half a pint at each effort.

Mr. —— operated; cut down on the sac; on pinching it up, he felt another body within; cut a small hole and divided the sac; intestine appeared healthy; felt at the ring like a thick cord; divided the pillar of the ring, and found a second structure, which he divided; the intestine kept by adhesion; this was divided; and it then returned. He died the next day, suffering great pain in the abdomen.

On post-mortem examination the wound was emphysematous; the intestines were filled with liquid fæces, inflated, inflamed, and adhering to each other and to the peritoneum; found a body blocking up the abdominal ring and adhering to it. Our surprise was great to find it to be the right testicle.

Lastly, I record two cases of hernia occurring in unusual positions.

CASE XIV.—*Hernia on Back.*—May 9, 1829. I saw a daughter of Mr. L——, three years old; of delicate form, but in good health. Her father states that this tumor was observed at the time of her birth. It was then smaller than at present. Now the tumor is as large as a moderate-sized watch, more conical; on the back, immediately above the left spine of the ilium, it admits of being easily returned, but quickly appears again. She has been away from her parents for the last three months, during which time they think her figure is slightly deformed, for there is a fulness along the right side of the spine, and on the left side, on a line with and close to the tumor, there seems to be a concavity. She has perfect use of her limbs.

CASE XV.—*Unusual Ventral Hernia.*—May, 1829. Mr. W—— has intestinal hernia, as large as a watch on the right side, half a finger's breadth from the spine of the ilium, and a finger's height above Poupart's ligament; this he retains in the abdomen by means of a leather bandage with a pad attached.

The subject of diseases of the rectum occupied much attention, and he gave his opinions on the subject in a paper in the Dublin Hospital Reports. I also publish another paper of his, with cases of disease of the rectum. The remaining cases recorded I have endeavored to collect and arrange in a condensed form.

I find, from the year 1823 to 1841, 69 cases noted; the youngest 4 years old, the eldest 70; of these, 32 were females, and 28 males; 15 had vascular tumors; 38 were affected with ulcers or fissures; 10 had both vascular tumors and fissures. In cases of tumors he applied caustic to one, and cut the remainder, pulling down the tumor and removing it with a scissors close to the forceps. Of these, 2 had hemorrhage; in 1 the bleeding occurred, as reported, from cutting too high. We should never cut above the sphincter. The bleeding was arrested by a sponge. In the second case of hemorrhage the report is: "I found no difficulty in drawing down the integuments, and securing the bleeding vessel."

These are the only unfavorable cases recorded, though he must have operated on a great number of cases, of which no mention is made, as they were unattended with any remarkable occurrence or symptom.

In 38 of these cases the disease was fissure or ulcer: of these, he operated by incision in 21, and he applied caustic, nitrate of silver, caustic potash, or sulphate of copper, to 16. Some of these required a second or third application of caustic, but these seemed to have all terminated favorably.

Of cases where there was the combination of vascular tumor and fissure, there are 12 recorded: of these he treated 8 by incision of the ulcer, and 4 by caustic; of these, 1 was attacked by erysipelas, and recovered; 1 died, and an abscess was found beneath the rectum.

I find, in fine, some cases of wounds of the brachial artery, and aneurisms consequent on bleeding, to the number of twelve.

They occurred at different ages. They came under notice from three days to six weeks from the time of the bleeding; in the majority the wound was open, and the patient reduced by repeated bleedings. In only two were the wounds closed; many of them appear to have had a sac with an opening in the artery, as well as externally.

In one remarkable case the patient was bled for an injury of his head; he seemed to progress favorably for some days, when an abscess formed under the cut, and opened, and then commenced to pour out blood.

One was a case of aneurismal varix, in which the patient compared the noise in the tumor to the hissing of a butterfly. Ten were operated on, and after more or less trouble a ligature passed above and below the wound.

In one a ligature high up did not control the bleeding, but, placed on the same vessel lower down, effectually stopped the flow from the upper portion.

In two there were more than two ligatures; in one, four different ligatures were applied, after various dissections, before the bleeding was stopped, each vessel being supposed to be the one injured.

In one case a ligature was applied above the wound. Secondary hemorrhage occurred in two days, and required a second operation to secure the lower end of the vessel.

In the aneurismal varix there was secondary hemorrhage on the eighth day, but it stopped without any further interference.

There was one case which had a fatal result; the patient died from the repeated bleedings, being exhausted by secondary hemorrhage.

The ligature came away in all of those recorded, from the 12th to the 23d day.

Two cases of aneurism were cured by pressure made on the tumor by means of a fine sponge. The first occurred in 1813.—*Dublin Quarterly Journal of Medical Science, May,* 1857.

ON THE CONCRETIONS OF THE PROSTATE. By *H. Thompson.*—The existence of "concretions" of microscopic size has been established in every one of the fifty specimens of the prostate exhibited. In many their size was that of a poppy-seed. They had been found also in the organ at fourteen years of age. Their physical and chemical characters (the latter by rigid analysis), were given at considerable length. Their existence was concluded to be a necessary result of the performance of natural functions on the part of the prostate. After numerous observations it appeared that the formation of a concretion frequently originated in the aggregation of a yellowish matter, often seen within the secreting nuclei lining the gland-ducts and pouches, often found free in yellowish granules, sometimes stuffing small ducts and follicles, and seen floating in the form of small prostatic fluid as well as in the contents of the vesiculæ seminales. In the larger masses of this yellow matter, entirely occupying the interior of crypts or follicles, the small granules may be seen cohering, or as if fusing together, and presenting an appearance identical with that which is often seen existing in the centre of fully formed concretions. It was concluded that the coalescence of these yellow granules, or of the nuclei charged with them, their partial fusion into a mass more or less homogeneous, the stratification in part of this mass itself, or more probably the deposit upon its surface of fresh layers of fluid matter similar to that which originally constituted the interior, and finally, some addition of opaque earthy matter to it, either by infiltration or accretion (through irritation of the secreting membrane around, from the pressure of the newly-formed body, as observed in numerous other instances referred to), were the steps by which the production of a "prostatic concretion" was very frequently accomplished, and its connection with "prostatic calculus" illustrated. The views of other observers were quoted and discussed at considerable length. Numerous drawings of these bodies in various stages of formation, as well as the original objects themselves under microscopes, illustrated the communication.—*Medical Times and Gazette*, June 20, 1857.

PRACTICAL MEDICINE.

Notes on the Use of Glycerine in Consumption. By *Richard Payne Cotton, M. D.*—There is much difference of opinion as to the influence of glycerine upon cases of Consumption. Not a few medical practitioners consider it scarcely, if at all, inferior to cod-liver oil, whilst there are not wanting those in whose hands it has entirely failed.

With a view of testing its effects, I administered it—in doses varying from one to two, and occasionally three drachms, twice a day—to twenty-three of the in-patients of the Consumption Hospital; notes being carefully kept by the Resident Clinical Assistants, Dr. Stone and Dr. Sibbald. As the cases were not selected, and all of them were under the same dietetic and general hygienic conditions, the result, as exhibited in the following table, may, I think, be regarded as a fair illustration of its influence. (*See opposite page.*)

It will be observed that only in five cases was there any improvement; in all of which the weight was slightly increased. In two of these, however, a much greater advantage was subsequently gained under the use of cod-liver oil; the weight of one patient having increased as much as two pounds per week.

In seventeen cases either there was no appreciable improvement, or the patients became worse; and one, in an advanced stage of the disease, ended fatally. In nine of these cases more or less improvement occurred from the after-use of the oleum aselli; in four instances, indeed (Nos. 4, 12, 19, 22), the gain in weight was very distinctly marked.

In five cases the glycerine either caused sickness, or otherwise disagreed with the stomach.

To any objection which may be raised that the glycerine was not given for a sufficiently long period, I would merely observe, that even in the cases where some improvement was noticeable, it appeared to me so probable that far greater good would accrue from the cod-liver oil, that I regarded a further trial of the other as unjustifiable; and, that such an anticipation was, in some instances at least, not ill-founded, the table sufficiently demonstrates.

No.	Sex.	Age.	Stage of Disease.	Complications.	Time under treatment.	General effect.	Effect upon weight.	Average gain in weight per week.	REMARKS.
1	M.	41	2	—	4 weeks.	None.	Gain.	½ lb.	Had previously been improving under cod-liver oil.
2	M.	40	2	Emphysema.	6 weeks.	None.	Loss.	—	Caused sickness. Patient improved and gained weight afterwards, under cod-liver oil.
3	M.	24	1	—	7 weeks.	None.	Loss.	—	——
4	M.	29	1	—	3 weeks.	None.	Loss.	—	Afterwards gained 1½ lb. per week under cod-liver oil.
5	M.	35	3	Bronchitis.	10 weeks.	Improvement.	Gain.	1 lb.	Took iodide of iron also.
6	M.	31	3	—	2 weeks.	None.	Loss.	—	An unpromising case, cod-liver oil having previously failed.
7	M.	30	3	—	2 weeks.	None.	Loss.	—	Ditto.
8	M.	16	2	Hæmoptysis.	3 weeks.	None.	Gain.	¼ lb.	Caused sickness. Patient afterwards improved under cod-liver oil.
9	M.	18	2	—	7 weeks.	Improvement.	Gain.	¾ lb.	——
10	M.	34	2	—	3 weeks.	None.	None.	—	Took steel with the glycerine.
11	M.	28	3	—	3 weeks.	None.	None.	—	Became dyspeptic. Patient afterwards improved under cod-liver oil.
12	M.	19	1	—	3 weeks.	None.	Loss.	—	Afterwards gained 3 lbs. in four weeks under cod-liver oil.
13	M.	13	3	—	2 weeks.	None.	Loss.	—	An unpromising case, other treatment having previously failed.
14	M.	19	1	Bronchitis.	2 weeks.	Improvement.	Gain.	1 lb. 4 oz.	Afterwards gained at increased rate under cod-liver oil.
15	F.	12	3	—	4 weeks.	Slight improvement.	Gain.	1 oz.	Health generally improved.
16	F.	46	3	—	4 weeks.	Became worse.	Loss.	—	An unpromising case, other treatment having previously failed.
17	F.	25	2	—	4 weeks.	None.	Loss.	—	Ditto.
18	F.	24	3	—	4 weeks.	Became worse.	Loss.	—	Ditto.
19	F.	29	1	—	4 weeks.	Slight improvement.	Gain.	4 oz.	Afterwards gained 2 lbs. per week under cod-liver oil.
20	F.	30	2	—	2 weeks.	Died.	Loss.	—	Caused sickness and loss of appetite.
21	F.	38	2	—	3 weeks.	None.	Loss.	—	Ditto. Patient afterwards improved slightly under cod-liver oil.
22	F.	24	2	Diarrhœa.	2 weeks.	None.	Gain.	½ lb.	Afterwards gained more than 2 lbs. per week under cod-liver oil.
23	F.	47	2	—	1 week.	Became worse.	Loss.	—	Caused gastric disturbance, thirst, and loss of appetite.

The following conclusions are, I think, irresistible, viz:

1. That glycerine has generally but little influence upon phthisical cases.

2. That, as a remedial agent in consumption, it will bear no comparison with cod-liver oil.—*Med. Times and Gazette, June* 27, 1857.

2. LACTIC ACID A REMEDY FOR DYSPEPSIA.—A remedy which has for a long time been used by Dr. NELSON, of Birmingham, and subsequently by many French physicians, under the name of Pepsine, for the cure of dyspepsia, and other functional derangements of the stomach, has within a short time been prescribed freely by some physicians in London. It has been very favorably noticed by Drs. Ballard and Sieveking. Dr. O'Connor has also tested its value in those cases in which it has been recommended, but not with the success attributed to its use. He was led subsequently to have recourse to lactic acid, a remedy which he believed likely to be more beneficial in those affections of the stomach in which the so-called pepsine has been administered. Before using the acid internally, Dr. O'Connor, we understand, in order to test its digestive powers as compared with pepsine, placed an equal weight of animal fibre, in equal proportions of pepsine and lactic acid, in separate vessels, in an equal temperature, when he found that the fibre in the lactic acid was reduced to a pulpy state in a very much smaller space of time than that which was put into the pepsine. After this experiment, which he thought sufficiently conclusive of the superiority of the lactic acid as a promoter of digestion, he had recourse to its use as a remedy in those affections of the stomach before alluded to. The great number of patients with affections of the stomach presenting themselves among the out-patients of the Royal Free Hospital, afforded an extensive field to Dr. O'Connor for testing the efficacy of lactic acid in dyspeptic conditions. After a trial in over fifty cases, he considers that the good results following its use fully justify him in recommending it as a valuable agent. It is very necessary to be sure that the lactic acid prescribed should be of chemical purity, and of uniform strength. The dose varies from half a drachm to two drachms or more, in infusion of colomba, or a little cinnamon-water. It should be taken during a meal. The lactic acid found in the shops is not generally pure; that which Dr. O'Connor has found to be most efficient, from its greater purity, is prepared by Mr. Bastick, of Brook Street, Grosvenor Square.—*Med. Times and Gaz.*, April 25, 1857.

THERAPEUTICS AND MATERIA MEDICA.

1. REPORT OF A CASE OF DEATH CAUSED BY SWALLOWING OIL OF TURPENTINE. By *John Maund, M.D.*—The following case seems, I think, worthy of recording, from my being unable to find any published account of death occurring from swallowing oil of turpentine. Christison, when speaking of this subject, says, "I am not aware that it has ever proved fatal." Taylor states, "I believe there is no case on record of destruction of life by turpentine." Other authors seem to agree in the same opinion, and neither Beck nor Guy, in their works on Medical Jurisprudence, treat of turpentine as a poison. From such testimony it evidently is manifest that death occurring from its administration must be very rare. Pereira

and Christison both mention, on the authority of Professor Schubarth, "That two drachms of this oil administered to a dog produced immediate staggering, cries, tetanus, failure of the pulse and breathing, and death in three minutes."

Being anxious to ascertain if such effects were by any means constant, the following experiments were made by Dr. Youl and myself:

1st Experiment.—To a moderate-sized dog half an ounce of oil of turpentine was given; this produced immediately quickness of breathing, increased flow of saliva, frequent but ineffectual attempts to vomit, giddiness, and appearance of intoxication. The whole of these symptoms passed off in twenty minutes, and the dog appeared little worse for the dose.

2d.—To another dog was administered two ounces of oil of turpentine; similar symptoms to those before described immediately occurred; in addition, there was shaking of the limbs, and a greater amount of general prostration. Half an hour afterwards drowsiness became a prominent symptom, and the giddiness seemed to have increased, so that the dog could with difficulty stand. The eyes were much congested and everted, so that scarcely any portion of the cornea could be seen. The countenance presented the appearance of suffering and depression. The dog lay down on its side; frothy sputa kept running from the mouth, and the animal seemed to be dying; still, consciousness was never totally lost, for its attention could, though with difficulty, be attracted by speaking loudly, or by touching it. The following morning the dog seemed much better, and it gradually recovered from the effects of the turpentine.

3d.—To a third dog three ounces of oil of turpentine was administered; for the following quarter of an hour the only effects manifest were quickness of breathing, and increased flow of saliva, giddiness and general intoxicating effects then supervened; in half an hour the dog lay down on its side with its legs stretched out, and, excepting that the eyes were not everted, presented much the appearance of the second, and on the following day it gradually recovered.

4th.—To another dog four ounces of turpentine were then given; this, in two or three minutes, produced great excitement; respirations were 108 per minute; clear saliva kept streaming from both sides of the mouth, but no giddiness or sleepiness, as in the other cases, occurred. Half an hour after the turpentine was administered, the dog broke his cord and ran about, as if greatly excited, but he would come when called, and appeared perfectly tractable and docile.

From these experiments it would appear that the effects of oil of turpentine on dogs, described by Schubarth, like the following case of poisoning in the human subject, must be the exception rather than the rule.

The following account of a case of suicidal poisoning by oil of turpentine, I abridge from the depositions taken at the coroner's inquest, and from information that I obtained at the time of making the post-mortem examination.

E. H., a female of thirty years of age, and healthy appearance, had for some months been living with a man as housekeeper and mistress, but from his signifying his intention of leaving her, she became low-spirited, and for a few weeks before her death indulged freely in the use of stimulating drinks.

On the day of her death, a neighbor, with whom she was intimate, called to see her; she then appeared well, though a little excited, but by no means intoxicated. While conversing with the deceased, she noticed a soda water bottle, which she took up, as she thought it contained gin; at that time the bottle was nearly full, and contained turpentine. At the request of the deceased she went to fetch her some meat from the butcher's; on returning, shortly afterwards, not finding her in the kitchen nor answering to when called, she put down the meat and left the house. Four hours after this witness had left her, she was found dead, the meat and other things about the room being in the same order as the witness saw them when she returned with the meat.

The position of the body, which had not been moved when I saw it, about forty hours after death, at once suggested to my mind that death had occurred from strychnine, the results arising from which I am quite familiar with, having made four post-mortem examinations within the last three years, when death had taken place from this poison. The deceased evidently, immediately before death, was sitting on the side of the bed, and when found, seemed to have simply fallen backwards across the bed. The legs were rigid, and stretched out before the body, and the soles of the feet were concave; the arms were bent across the chest, and great force was required to straighten or remove them from this position, the biceps muscles being forcibly contracted and very hard. The body assumed the state of opisthotonos, and all portions of it were rigid, but the thighs least so. The eyes were open and prominent, and the pupils slightly dilated; the jaws were fixed, and could not be opened; the skin generally was pale, but of a livid hue in places, particularly about the head. The general appearance of the body was such as to give the idea that death had occurred suddenly from tonic spasm; there was no derangement of the dress or bedclothes to indicate convulsive action, and no external marks of violence. An empty pail was found on the floor close to the deceased, which probably she had placed there in case sickness should occur.

The internal organs of the body presented the usual appearance of a person dying from asphyxia. The membranes of the brain and upper portion of the spinal cord were found greatly distended, with very dark-colored blood of a sizy consistence, but it had no unusual smell. The brain was not softer than natural, but was, to a less extent than its membranes, congested with blood of the same character. The mucous membrane of the trachea was rendered quite arborescent by the ramification of a network of distended vessels, but in the interstices the membrane was of the usual color. The lungs were gorged with blood of the same dark appearance as was found in the membranes of the brain. The cavities on the right side of the heart were distended with blood, the left also contained a small quantity of blood; in both sides it was of equally dark color. The liver and kidneys were congested, but to a less extent than the organs before mentioned. The bladder was empty and firmly contracted, but appeared healthy. The stomach and bowels were the last part examined. Immediately on the stomach being opened, a most powerful smell of turpentine became evident, which had not before been recognized; this organ contained a small quantity of a thick fluid, which had the appearance of an emulsion made with turpentine and mucilage. The duodenum and upper portion of the jejunum were considerably congested, and the smell of turpentine was evident in all portions of the intestinal canal.

A further examination of the stomach and its contents showed that the mucous membrane was congested, and several very large vessels, injected with dark blood, were found passing from the cardiac to near the pyloric extremity, and in several places close to these vessels small ecchymosed patches existed. The contents of the stomach amounted to three ounces: it was of a semi-fluid character, and globules of what appeared to be oil of turpentine were seen to be intermixed with the more tenacious contents. Distilled water was then added to it, and thoroughly mixed together; three hours afterwards there was found swimming on the surface a limpid fluid, which was removed with a pipette, and was found to consist of oil of turpentine, of which there were six drachms. The remaining contents of the stomach were then examined for strychnine, but none was discovered in this, the parietes of the stomach, or mixed with the turpentine which had been removed. Under the microscope the solid contents were seen to consist chiefly of wheat and potato starch corpuscles.

The house was carefully searched as soon as the deceased was discovered, to ascertain if poison of any kind could be found, or if any vessel was soiled by any unusual fluid; neither, however, could be discovered. The bottle containing turpentine was found on the shelf, where the witness said she saw it before leaving to fetch the meat for deceased; the quantity removed from the bottle was about six ounces; whether the whole of this was swallowed, it is impossible to ascertain, but it seems highly probable that the portion taken was drank directly from the bottle. No smell of turpentine in the house, or suspicion of its having been taken, existed till the stomach was opened.

The deceased, it seems, had several times hinted that she would destroy herself, but this threat did not appear to have excited any serious apprehension that she intended carrying it into effect.—*Glasgow Med. Journal,* April, 1857.

ON THE EMPLOYMENT OF AMYLENE. By *M. Robert and others.*—M. Robert recently read at the *Académie de Médecine* an interesting report of a commission composed of MM. Malgaigne, Velpeau, and himself, upon a memoir on amylene submitted to the Académie by M. Débout. The report states that M. Débout's paper offers nothing new upon the subject, but confirms the observations already published by Snow, Giraldès, and Tourdes, establishing that amylene produces anæsthesia very speedily, without causing any painful sensation, or inducing that desire to cough or expectorate so often observed in the employment of chloroform. "During the entire procedure," says M. Débout, "the pulse remains large, full, and very rapid, the respiratory movements are deep, the skin warm, the face highly colored. In one word, there is an absence of those signs which indicate that the new agent can readily exert any effect upon the phenomena of organic life."

The reporter, in order to judge of this favorable account of amylene, made a number of trials with it himself, employing Charrière's apparatus, which, by covering both nose and mouth, prevents a loss of the vapor. One of the remarkable properties of amylene being its slight solubility in the blood, its vapor must be breathed in as concentrated a manner and as continuously as possible, under the risk of failing to produce insensibility, or of this being of too short duration. M. Robert believes that it is the want of observing this precaution, and from merely administering it on a sponge, that some surgeons have failed altogether, or have had to employ very large quantities of amylene. He has employed it in forty-four adults of both sexes. Most of the operations were but of short duration, such as opening abscesses or panaris, avulsion of nails, or amputation of toes; but some have been of a more important character, such as amputation of the thigh and arm, removal of the breast and the parotid gland, and extraction of a calculus from the prostatic portion of the urethra; this last requiring a quarter of an hour. In none of these cases was any irritation of the mucous membranes produced. Most of them were rendered insensible in two or three minutes, a few not until six or seven; while in three, after ten or twelve minutes' inhalation had been tried in vain, chloroform had to be resorted to. The agitation which so frequently precedes the action of chloroform was not observed. The countenance became more and more flushed. The eyelids remained widely open, and the fixed eyes were frequently carried upwards, beneath the upper lid. The head was thrown backwards, and sometimes the limbs became extended and stiffened. The pulse was very rapid, and, in one case, its intermittent and filiform character excited alarm. Respiration continued free, and the spasmodic closure of the jaws, with threatened suffocation, sometimes observed under chloroform, was never met with. It is an important fact, that amylene never gives rise to muscular resolution, and the insensibility it induces is of very short duration, unless the application be constantly repeated. After the operation, the restoration is rapid, the patient not continuing to suffer any uneasiness. Two young girls, however, exhibited a singular form of delirium, accompanied by sobbing and violent convulsive movements. One of them, subjected some time after to chloroform, exhibited the same symptoms. Thus, while amylene resembles ether and chloroform in its power of preventing pain, it differs from them in the rapidity and temporary duration of its action, and in not exerting any power on muscular contractility.

As to the question of danger, M. Robert observes that Dr. Snow's case has proved that, as in the use of chloroform, death may take place in consequence of a special predisposition of the economy of an unknown nature. The only question really is, whether there is less danger attaching to the employment of amylene. From various experiments he has performed upon animals, M. Débout concludes that there is; and he calculates that, if the dose of chloroform has to be doubled, to convert it from an anæsthetic into a toxical agent, that of ether has to be quadrupled, and that of amylene to be quintupled. The reporter, having repeated the experiments upon birds and rabbits, believes that this statement is accurate. Performing other experiments upon dogs, employing for that purpose a modification of Charrière's apparatus, he found that chloroform gave rise to the usual series of symptoms, from simple insensibility to complete muscular resolution, the animals always dying in the course of thirty or forty minutes. Under the use of amylene the same symptoms were observed as in man, but a relaxation of the muscles was never obtainable. Moreover, continuing the experiment, with the intention of killing the animals, these seemed to become habituated to its use, and recovered part of their sensibility. The inhalation was terminated at the end of an hour, and the animals soon began to walk, and were speedily restored. Having contrived an apparatus by which large quantities of amylene could be breathed in a concentrated form, the reporter at last succeeded in producing complete resolution of the limbs, and death followed in twenty minutes. While these experiments show that amylene is a much less powerful poisonous agent than chloroform, the reporter does not agree with M. Débout that it may, therefore, be more safely used in practice. It is, in fact, a leading point in the history of anæsthetics, that death has not supervened in man upon a successive and progressive evolution of the phenomena of intoxication, but that it occurs suddenly and unexpectedly, and in consequence of an unknown predisposition of the economy.

Amylene is therefore but another anæsthetic agent, to be placed side by side with ether and chloroform. Its action is prompt and of short duration, while its effects rapidly disappear. It is to be preferred in very short operations, when we wish simply to prevent or moderate the pain. Moreover, its not exciting irritation of the air-passages renders it a valuable agent when pulmonary lesions exist. It does not, too, give rise to vomiting or nausea, which are not infrequent after chloroform. This is important, especially in relation to children, enabling us to operate nearer their mealtime, and avoid the inconvenience of submitting them to long fasting, which they support very badly; nevertheless, vomiting does occur occasionally.

As the insensibility produced is of such short durability, and muscular contractility is only exceptionally influenced by it, amylene should not be employed for long and difficult operations, and especially those in which it is requisite to subdue the contractility of the muscles, as in dislocations, hernia, the diagnosis of abdominal tumors, &c. M. Tourdes has stated that muscular resolution may at last be obtained by a sufficient prolongation of the anæsthesia; but independently of the inconvenience that might result from the absorption of such large quantities of amylene, and the troublesome uncertainty the surgeon is kept in respecting the return to consciousness of his patient, it is by no means proved that such resolution would ensue upon a multiplication of the doses. Moreover, the reporter's experiments would seem to show that such repetition, providing the dose be not rendered excessive, tends to destroy the activity of the agent; while when resolution was obtained it was only shortly before death.—*Bull. de Thérap.*, May, p. 443.

M. Velpeau, as a member of the Committee, observed that he was no great partisan of amylene, and does not think, as far as his own experience goes, that it is likely to displace chloroform. Against its employment are its detestable smell, alike annoying to operator and patient, the little constancy of its effects, and the necessity of employing an apparatus. As to chloroform, he believes that the amount of danger attending its use has been grossly exaggerated. During the ten years he has employed it, in from five to six thousand cases, for operations at different ages and in both sexes, he has met with no accident whatever. No important accident has, indeed, occurred at any of the great Paris Hospitals. Moreover, how unjust, whenever a death occurs during or after an operation, to attribute it to chloroform! Employed with proper precautions, he does not regard it as a bit more dangerous than amylene, while it may be administered without any apparatus.

M. Giraldès, at a subsequent meeting of the Académie (*Gaz. Méd.* No. 21), gave a further account of his experience, having used amylene in the cases of seventy-nine children, varying from one to fourteen years of age, two drachms being in most cases the quantity employed. The time required for the production of the anæsthesia is usually about three minutes, but it varies much, both in different persons and in the same individual. No ill consequence has resulted, the anæsthesia taking place without reaction, or convulsions. In eight cases muscular rigidity was observed; and when this occurs the inhalations should be suspended awhile, and free respiration permitted. In six cases vomiting occurred. The anæsthesia lasted for a very short time, but it may continue for eight or ten minutes, and is easily kept up. Chloroform is a more powerful agent, but it is also a more dangerous one. It may throw feeble children into a state of cadaveric resolution; and the anæsthesia it induces is often so prolonged as to endanger life. On other occasions it induces spasmodic closure of the jaws, rigidity of the muscles of the neck and thorax, and all the symptoms of asphyxia, rendering artificial respiration necessary. It generally gives rise to vomiting, or other signs of irritation of the digestive organs. After the employment of amylene sensibility rapidly returns, and the children seem in nowise to suffer from it. It may be given soon after meals, and to enfeebled children, in whom chloroform would prove dangerous. It thus has, like chloroform, its special indications, and frequently presents indubitable advantages.

Dr. Kadlburger (*Win Wochenschrift*, No. 19) relates the results of his experience of the employment of amylene in seventy-two cases of tooth-extraction, he applying it by means of a sponge to both mouth and nostrils. He states that the amylene he employs emits a smell of over-ripe pears, and is nowise irritating to the respiratory organs. From one to one and a half minute's inhalation suffices for this purpose. The falling of the uplifted arm, as if wearied, is the signal for the discontinuance of the inhalation. No abnormal muscular movements or closure of the jaw were produced. The patient readily opened the mouth upon being requested to do so; and during the extraction most persons retained the consciousness of the application of the instruments. The pain, when felt at all, was very slight, and never at all approaching to the torture attendant upon ordinary tooth-drawing.—*Med. Times and Gazette*, June, 20, 1857.

OBSTETRICS.

1. Secondary Uterine Hemorrhage. *By Thomas F. Cock.*—The subject of secondary hemorrhage from the uterus has claimed less of the attention of systematic writers upon obstetrics than its importance and frequency demand. The term "secondary" is designed to include such considerable losses of blood as occur between the periods of some six hours after labor is completed and a number of days, varying from eight to thirty.

Such hemorrhages are of importance, because, in many cases, they have proved fatal; and their treatment demands some peculiarities beyond that usually pursued in flooding. Roberton has directed attention to this question in his excellent *Treatise on Diseases of Women*, etc., illustrating it by cases, but for the most extended and satisfactory notice, we are indebted to Dr. A. H. McClintock, who published in the May number, for 1851, of the Dublin *Quarterly Journal of Medical Science*, a valuable paper which contains the best digest of the subject. In relating the accompanying cases, I shall simply follow the etiology which Dr. McClintock has sketched, illustrating the subject by such occurrences as have come under my own notice.

Of the various *causes* of secondary hemorrhage, none is more frequent than that of a *retention of a portion of the placenta*, when manual separation has been practised for adhesion. This form is well described in books, and the danger of the case arises less from the amount of blood lost than from the liability to purulent absorption caused by the presence of a putrid mass in the uterus. The disposition to absorption is also increased by the loss of blood the patient has sustained. The following cases illustrate these points:

Case 1.—A multipara; æt. 28 years; entered the N. York Hospital, October 29, 1856, in labor with her fourth conception. Her previous labors had been lingering, and she had had floodings. She was delivered on the 30th, and hemorrhage ensued from atony of the uterus. The placenta was partially removed, portions having remained attached to the uterus. I saw her for the first time, on the fourth day after labor, and found her exhibiting in a marked degree the effects of loss of blood; portions of the placenta had been expelled, with hemorrhage. By examination, I found a portion of placenta within the grasp of the os uteri, and removed it; hemorrhage recurred the next day, and under the reiterated losses the woman succumbed. On *post-mortem* examination, a piece of placenta was found near the fundus of the firmly-contracted uterus; pus was found abundantly in one ovary.

On several other occasions, after manual extraction of the placenta, I have had hemorrhage, but none of serious import. Two autopsies, in addition to the above, have shown pieces of retained placenta, giving rise to phlebitis.

2. A *retained coagulum* acts similarly, and is a source of danger so long as it remains. The nucleus of such a clot may be a portion of membrane, retained by adhesion, which is not unfrequently so firm as to cause considerable inconvenience to detach it.

3. *Relaxation of the tonic contraction* of the uterine tissue may obtain for some days after labor, and if this be combined with any one of the circumstances which hurry the circulation, hemorrhage would be likely to ensue. And these circumstances may properly be reckoned under a fourth head:

The *incautious use of stimulants; premature exertion; agitation of mind,* are frequent, perhaps the commonest, causes of flooding subsequent to labor. The additional impetus to the circulation overcomes the constriction exercised by the uterine fibres on the sinuses, and hemorrhage ensues.

Case 2.—A primipara was confined on March 3, 1856, with a natural but rather tedious labor. On the 13th, ten days after, she was dressing her child, and observed something about its navel which alarmed her. She was at once seized with hemorrhage, which prostrated her considerably. Ergot and elixir of vitriol were given, and the bleeding ceased, but there remained marked tenderness in the right iliac region, and a frequent pulse. Before confinement, a pain had existed in this situation. On the 21st, while she was sitting up, the bleeding recommenced, and from its effects she fainted. To control this, the alum plug was used, and ergot given with gallic acid, internally. No further return of bleeding was noticed in this case, but convalescence was tedious and prolonged, and some months elapsed before she regained her strength.

Case 3.—A primipara was confined June 5, 1856, and did well until the 23d, being able to wash during this day. In the evening she received some intelligence which disturbed her, and, while talking to some friends, was seized with flooding, which caused faintness. Ergot and gallic acid, aided by rest, controlled the bleeding, and the use of the alum plug (which was prepared), was not required. On the

28th, a slight recurrence was noticed, but required no special attention. On July 3d, she went to the country.

Case 4.—A multipara was confined on July 22, 1856, after a labor of moderate severity, and was able to sit up on the 28th. The 31st was a very warm day, and the patient was fatigued by having the sole care of the child. While so engaged, she became faint, and lost considerable blood, by which she was much alarmed Tinct. of ergot with tinct. of matico was directed, and an alum plug prepared for an emergency, but there was no return of hemorrhage.

Case 5.—This case has been reported in a previous number of this journal, and is introduced here simply for the purpose of grouping cases exhibiting similar phenomena. A primipara was delivered May 12, 1848. She had a slow getting up, and while engaged in washing, on June 1, had some bloody discharge. On June 4, she went to church to have her child baptized, and, while standing during the administration of the ceremony, flooding came on. She continued to stand until she became faint, and was carried home. After the application of ice and a bandage, the flooding ceased. Two days after, while visiting her, I found her lying prostrate on the floor, pale and faint, and with some hemorrhage. She had risen from her bed to get something, had fainted and fallen on the floor. This patient was exceedingly imprudent in exertion, but finally recovered after a tedious convalescence.

Case 6.—Was seen at the Lying-in-Asylum, in connection with Dr. Fergusson, then resident physician, by whom it has been reported. A primipara was seized on the thirteenth day after labor with flooding, resulting, as the Doctor supposed, from premature removal of the binder. She had flooded considerably, and was quite reduced. Cold, ergot, acetate of lead with opium, and the readjustment of the binder, sufficed to restrain the bleeding.

5. *Constipation*, by the obstruction to the circulation produced upon the left iliac vein, may also be a source of bloody discharge from the uterus.

6. *Functional disorder of the liver* is said, also, to play a part in such hemorrhages.

7. Bennett claims no small share for *ulceration of the cervix* as a cause for draining from the uterus after labor, but though recognizing the condition as one likely to produce a continuous flow, in no case have I seen decided hemorrhage resulting from such abrasions.

8. *Polypus of the uterus* unquestionably gives rise to hemorrhage as connected with labor. The only case I have seen of this complication presented flooding as immediately following the expulsion of the placenta. It has been previously published.

Case 7.—In May, 1852, I was called to see, in Bellevue Hospital, a primipara, flooding after delivery. The labor had been normal, the placenta being spontaneously expelled; flooding followed, the uterus being well contracted. On inserting the finger between the labia, a tumor was found, which was ascertained to be attached to the uterus, in size and shape, much resembling the virgin uterus; considerable loss of blood occurred—about two quarts. Ergot and firm pressure over the uterus failing to check the discharge, the hand was introduced into the uterus, and then it ceased. Three weeks after, by speculum examination, the tumor was found to have diminished to a mere excrescence on the cervix.

Somewhat resembling this case was one in which an elongated anterior lip of the cervix, seemed to be the producing cause of a hemorrhage. In a subsequent labor of this patient, when this prolongation did not obtain, there was no marked loss of blood.

9. *Inversion of the uterus* is a well-recognized cause of this peculiar variety of flooding; but of this accident, the only instance I have seen was in a case which Dr. Van Pelt has reported in the New York *Medical Times* for February, 1853. No difficulty was experienced in restoring the uterus to its natural position in this case, and no hemorrhage ensued. The knowledge of the possibility of inversion as a cause of secondary hemorrhage will induce a strict scrutiny in all such cases; and manual examination is indispensable, both for diagnosis and for treatment.

10. *Various injuries* to the uterus, or even the vulva, will sometimes give rise to serious discharges of blood. Such injuries may occur from imprudent or prolonged efforts in instrumental or manual delivery, and are also found in abscesses in the vicinity of the uterus, or even, as has been noticed, an aneurismal sac in the walls of the uterus has been the source of the discharge. Montgomery has described a thrombus near the cervix as causing hemorrhage, and others have related fatal cases from the same cause.

A case is recorded by George Todd, in the London *Lancet* for April, 1857, which proved fatal three weeks after delivery. In commenting on the case, Mr. Todd surmises "that the cause of the flooding is to be sought for, neither in the relaxed condition of the uterus, nor in its post-partum sub-involution," but ratheri nclines to believe that "*an altered condition of the blood* and circulation may play an important part in the causation of the hemorrhage." His patient had had severe confluent small-pox, two months before delivery. (The child it may be remarked was born healthy.)

Bloody uterine discharges are not uncommon with typhus fever.

The following case, though imperfect without the autopsy, may be adduced as an example of secondary hemorrhage from injury.

Case 8.—Was called November 8, 1855, to see a multipara, of whom the following history was given:—She had been some time in labor, under the care of a student, and when seen by Dr. Van Pelt was in full labor with a breech presentation. In the absence of the latter, another doctor was called in "who attempted to turn," and on his return, the right arm was protruding from the vulva. Repeated and prolonged efforts at version proving unsuccessful, I was called to see her, and found the patient much exhausted by her own and by her attendants' exertions; the right arm was extruded from the vulva, swollen and livid; beyond this arm and high up was the left foot, and still further up could be felt the other hand. Version was effected with difficulty, and the patient was much exhausted.

On the fifth day after delivery, the student who attended her, while sitting by her, was startled by a noise, and found she was bleeding profusely, the blood being florid. From the effects of this hemorrhage she did not rally, but died on the succeeding day. No autopsy was made. It was supposed that the long-continued efforts at version had produced inflammation, and ulceration of some considerable vessel had followed, giving rise to the hemorrhage.

Treatment.—As remedial measures, perfect *rest* in the horizontal position, aided by *pressure* over the uterus, and the use of *ergot,* naturally occur as of service in most cases; *cold*, either by *ice* or *enema*, may also be useful, but the remedy requires some caution, when inflammatory affections are to be apprehended. Of styptic remedies, I have placed the most reliance on *gallic acid*, freely given, preferring it to *acetate of lead* or *tannin;* in some cases of hemorrhages, connected with abortion, *matico* has been conjoined with ergot, and, in this form, also, to a more limited extent, and benefit has ensued.

The one remedy in which I have placed most confidence in the treatment of uterine hemorrhage apart from parturition, is the *alum plug*. In the floodings of abortion, this has proved, I may say, an unfailing resource; and in this special form of secondary hemorrhage, a plug is always left to be used if the discharge recurs. The plug is prepared by shaping a piece of alum to the size of the thumb, through which, by means of a red-hot iron, a hole is bored, through which a string is attached, by which the plug may be withdrawn if it causes too much irritation. The direction is usually given to the patient herself to push this piece of alum as far as possible up the vagina, upon the recurrence of hemorrhage. But one objection to the use of this remedy can obtain, viz.: when the vagina is abraded or ulcerated; in such cases, alum would prove too irritating; perhaps, in such cases, an ordinary tampon of cotton, sponge, silk handkerchief, etc., might be useful, but, during their use, a strict watch must be maintained over the uterus, lest internal hemorrhage should occur.

The treatment of retained placenta, or a clot in utero, is, of course, the removal of the exciting cause, when practicable, but violence in removing is more hazardous than hemorrhage from continuance of the presence of the foreign body.

If the bowels are constipated, or functional disorder of the liver exists, the remedy is obvious.

Ulceration or abrasion of the cervix is controllable by the use of *nit. argent*, locally applied.

Inversion, of course, demands *restitution*, if possible; and, by the aid of chloroform, cases, before deemed irremediable, have been relieved.

The relief of polypus demands careful consideration; the exceeding vascularity of the uterus immediately after labor and its proclivity to phlebitis, makes caution in operative measures essential. *Torsion* and the *ligature* have been most frequently employed; to these *excision* is added. McClintock remarks, "notwithstanding the array of evidence in favor of the early performance of the operation, it still can hardly admit of the question that the safest and most prudent course, in cases of secondary hemorrhage from polypus, will be to forego all attempts at extirpating the tumor as long as possible, or until the woman has recovered from the effect of parturition, when the attendant risk will be infinitely less." "Should hemorrhage persist in spite of cold, styptics, the tampon, and, perhaps, ergot, our only alternative is the removal of the tumor."

In detailing the above cases, a special reference has been had to the paper of Dr. McClintock, and if his essay were generally in the hands of the profession, there would be but little necessity for such details; as, however, it seems to have met with but limited circulation, I have ventured to publish my few cases, in the hope of drawing more attention to the subject, and of eliciting the more extended experience of others in regard to it.—*New York Journal of Medicine*, July, 1857.

2. ON THE USE OF THE SPECULUM. By *Robert Lee.*—The author referred to the tabular statement of two hundred and twenty cases of real and imaginary disease of the uterus, published in the 38th volume of the Medico-Chirurgical Transactions, and presented in a similar tabular form the details of eighty additional cases which had since come under his observation. Of the 300 patients, 47 were unmarried; one had barely completed her 18th year, several were under 20, and the majority under 30 years of age, and were suffering from hysteria, leucorrhœa, dysmenorrhœa, or some nervous affection of the uterus, without inflammation, ulceration, or any structural disease or displacement of the organ. In Case 256 the patient had been told that the womb was prolapsed and much ulcerated, and an instrument had been introduced for six weeks, with an aggravation of all the symptoms. The hymen was found so perfect on examination that it was impossible to reach the os uteri without using an unjustifiable degree of violence. On the ground of morality, and on every other ground, he could see no defence for the employment of the speculum in these 47 cases. Of the 300 patients 70 were barren, and the sterility was not removed nor the other symptoms relieved in a single instance. Several of these individuals spoke with horror and shame of the treatment to which they had submitted. A considerable number of the cases were suffering from cancerous disease, in all of which the symptoms seemed to have been aggravated by the treatment. In Case 236 the character of the disease was unmistakable, but after an examination with the speculum a favorable prognosis had been given, and the actual cautery employed for months, and hopes of recovery held out to the last. The author expressed his conviction, that neither in the living nor in the dead body had he ever seen a case of similar ulceration from chronic inflammation of the os or cervix uteri, and to apply the term to states of the os uteri in which the mucous membrane, or, as it is termed by some, the basement membrane is not destroyed by ulceration, was an abuse of language calculated only to deceive and mislead the members of the Medical Profession, from whom the truth has been carefully concealed. The speculum emanates from the syphilitic wards of the Hospitals at Paris, and it would have been better for the women of England had its use been confined to those institutions.—*Med. Times and Gazette*, June 20, 1857.

3. PRACTICAL OBSERVATIONS ON BLISTERING THE CERVIX UTERI, AS A REMEDIAL AGENT IN THE TREATMENT OF CERTAIN DISEASED CONDITIONS OF THAT VISCUS. By *Robert Johns*, of Dublin.—It is a fact well known to the experienced uterine pathologist, that it is not unusual, even after diseases of the womb have been removed, for some one symptom, most frequently that which throughout the duration of the affection had been most distressing, to remain, resisting all means employed for its removal. In some instances it disappears by degrees after a short space of time, whilst in others the result is not so fortunate, in consequence of which the patient and her medical adviser become mutually discontented at the issue, and she seeks advice in all quarters, but to no avail, until at last she abandons all treatment, and gives herself up a prey to despondency and despair, being fully persuaded that she is suffering from cancer or some such incurable disease; and as her general health remains unimpaired, she is regarded in the light of a hypochondriac by her unsympathizing friends, a state of things far more likely to aggravate matters than alleviate them. As the following remarks from the pen of that eminent uterine

pathologist, Dr. James H. Bennet, bear much upon this subject, I think it may not be out of place here to quote them :—" Generally speaking, all uterine pains vanish when the disease of the cervix is cured. This is not, however, invariably the case. The pain in the back, more especially, may remain long after all trace of disease has disappeared from the uterus, varying in intensity without any tangible reason. The repeated application of large blisters will often permanently remove the pain; if not at first successful, their application will generally be found to be so in a few months later."

Now it is to the means of removing these harassing but not dangerous symptoms, as also for the cure of minor diseases of the uterus of a very chronic character, of ovarian irritation, after other more active measures have been employed, and for expediting the cicatrization of some ulcers, I would direct attention; but I must premise by saying, that what I am about to recommend is very simple in its application, is perfectly devoid of danger, either immediate or remote, and is never accompanied nor followed by any alarming symptoms. I do not, however, offer it as a panacea for all uterine complaints, but I wish merely to restrict its employment to the class of cases already detailed, in which I trust it will be as successful in the hands of others as it has been in mine.

From amongst other cases of uterine disease treated by me within the last eight months, I have kept notes of about two hundred and fifty; and in many of them I have pursued the plan of treatment now about to be recommended; but as the symptoms and other details in many of them were similar, and their recital would be tedious, I will only give a short sketch of a few, as a type of the remainder.

As it is familiarly known that leeches, when applied directly to the cervix uteri in inflammatory and other affections of that and neighboring organs, act far more beneficially than when employed externally, and at a greater distance from the seat of the disease (as first enjoined by M. Guilbert),—so, as blisters, when used externally, act sometimes salutarily in the cases now under consideration,—may we not reasonably expect that their direct application to the offending viscus will be still more likely to be productive of good? Actuated by this, as well as other reasons, I have made trial of their efficacy, and I have not been disappointed in my expectations.

The plan I adopt for blistering the cervix uteri is as follows: The parts are first brought into view by means of a speculum,—I generally use Fergusson's, but with moderate care any other will answer as well. They are then to be well freed from any mucous or other discharge by a dry, soft sponge; sometimes the mucus is so adherent, particularly when exuding from the os, that it is necessary to damp the sponge for its removal; in all cases, however, the parts must be well dried; after which a concentrated solution of cantharides in sulphuric ether, mixed with the ordinary solution of gutta percha in chloroform, in the proportion of two parts of the former solution to one of the latter, is to be rapidly rubbed on the cervix by means of a camel's-hair pencil two or three times, according to the effect produced, as indicated by the appearance of the part, or by the sensations of the patient.

My first essay was with vesicating collodion, but as it caused great pain, both during its application and for hours afterwards, only ceasing on the appearing of the watery discharge, and as its operation was not sufficiently expeditious or efficacious, I had a strong solution of cantharides in chloroform, in which gutta percha was afterwards dissolved, prepared for me by Mr. Walsh, of Westland Row, which had the advantage of being painless during and after its use; but it was not so speedy in its action, nor so powerful in its effects as the collodion. Therefore, after consulting with several chemists in the city, I eventually applied to Mr. Williams (Dr. Butler's chemist), who, after having made several experiments, kindly presented me with a specimen of the preparation which I now use, and offer to the prosfession as being fully adequate to fulfil the indications required. It is frequently of advantage to keep open the blistered surface, and this is satisfactorily done by the weaker preparation in chloroform, which I denominate vesicating gutta percha, No. 2,—the ordinary one (vesicating gutta percha, No. 1) being rarely required for that purpose. For some days after the operation I direct vaginal injections of cold water to be used, and sometimes I wash over the parts with a weak preparation of nitrate of silver. At first I was in the habit of keeping open the blisters by some strong caustic, but I very soon learned that the weaker solution of cantharides answered the purpose better.

During the appliance of this remedy the patient experiences a pricking, stinging pain, together with a sensation of heat, sometimes amounting to burning—it is very bearable, and ceases almost immediately, indeed, in some cases she will not tell you of it unless you ask her; in others a sweet, pungent taste and smell are experienced, or an ethereal odor is perceived on her breath by another. Very frequently, in fact generally, small vesications appear at the time, and a watery discharge sets in within half an hour afterwards (which has a scalding sensation whilst passing), sometimes even before the speculum has been withdrawn. This discharge, starching the linen, and in other respects similar to that from blisters externally formed, lasts commonly for three days, when to it succeeds one of a slightly purulent nature, but not productive of pain. At this stage we shall find the epithelium thickened and raised, and coming off in patches, like bits of chewed paper; but, prior to it, vesications, like to those on the skin, are very plainly visible with their exudation. On more than one occasion I have seen a watery discharge produced by preparation No. 2, from a surface previously blistered, used to keep it open; and the same phenomenon has occurred on an ulcerated surface.

Blistering the cervix uteri does not cause any unpleasant sensations towards the rectum, bladder, or neighboring organs. I never saw strangury or such like affection thereby induced; on the contrary, I have employed it more than once when vesical irritation was present, which, so far from being increased, was completely removed by two applications.

The average length of time for repeating this treatment is about six days, unless it be desirable to keep up the process; then, in that case, it would be about three days.

From my experience of the treatment now under consideration, I would draw the following deductions:—

1. That minor idiopathic affections of the uterus and ovaria are curable by blistering the cervix uteri.

2. That symptomatic and sympathetic pains at the decline of uterine and ovarian diseases, and after the cure of those affections, are removable thereby.

3. That ulceration of the cervix uteri sometimes quickly cicatrizes under this treatment.

4. That the phenomena attendant and consequent on blistering the cervix uteri are similar to those produced on other parts of the body.

5. That it is an operation completely devoid of danger, and that it does not cause any unpleasant symptom towards the rectum, uterus, or other neighboring organs.

6. That irritation of the bladder is not necessarily a barrier to blistering the cervix uteri, as this unpleasant symptom is sometimes removed by it.

7. That enlargement of the cervix or body of the uterus from engorgement, or hypertrophy, is not removable by blistering the cervix alone, but that it acts well sometimes in such cases as an adjuvant to other treatment.

8. That the best and most speedy way of blistering the cervix uteri is by a strong solution of cantharides, well and quickly rubbed in with a camel's-hair pencil.

9. That the combination of some sedative or anodyne with the blistering fluid is essential to prevent pain.

10. That chloroform, with gutta percha, is preferable to any other medicament for combining with the blistering fluid, as in the first instance it increases its vesicating powers, and afterwards relieves and removes the pain thereby induced.—*Dublin Quarterly Journal Medical Science*, May, 1857.

Editors' Table.

CURIOSITIES OF MINERAL SPRINGS.—One of the greatest natural curiosities, is the uniform temperature and mineral impregnation of the water of a spring during long periods of time. We have good evidence for believing that the temperature of certain thermal springs, known and resorted to by the inhabitants of ancient Rome, has undergone no change down to the present day.

A great contrast is often offered in the extreme proximity of cold and hot springs to each other. In the valley of the Nerbada, Northern Hindostan, a hot spring gushes out, at a distance of only five or six paces from a cold one; and at a pass through the Himalaya range, close to the hot springs of Nobea, near Le, small streams of cold water issue. The hot springs at the western part of the great plateau or table land of Thibet the highest in the world, after having been agitated and churned in the great granite reservoirs or basins in which they rise, flow over or escape through clefts, and unite to form a rivulet, which a little more than a mile distant from its source is entirely frozen over. Often the ebullition becomes so violent in the middle of certain reservoirs, that great columns of water rise and fall periodically, as if forced out by an immense pump. Over these springs dense vapors continually rise in the air, and are condensed in the form of white clouds. The whole scene reminds us forcibly of the Geysers of Iceland, which these springs of Thibet so closely resemble. In the Himalaya range a strong contrast is exhibited in an arch of snow forty feet thick, extending across the nascent hot stream of Jumna-tree the temperature of which at this elevation, 10,849 feet above, is 194° F., more than equivalent to the heat of boiling water at the common level of the ocean. These springs issue from a ledge of rock, only ten to twelve feet above the bed of the river. Above the ledge the hot water forces its way through a crevice, in a smoking jet of five or six feet in height, which has melted the snow around to a distance of from twenty to thirty yards. The rills of hot water which issue from the laminæ of rocks above referred to, when united, form a considerable stream. The Hindoos bathe in a pool of the water of the river, in which rises a hot spring of considerable size, so that they obtain a bath of nature's tempering, nearly warm.

Heat and cold are in close embrace in the "valley of hot waters" in the Chilian Andes, where from under the peak of the *Cervade Azufre*, which forms part of an enormous mass of ore, issues a torrent of hot water, of the temperature of 134° F. From the centre of this valley of thermal springs, a stream pure as crystal flows out. On the summit of one of the spurs of the Andes, to the north of St. Jago, the capital of Chili, two springs rise, one hot, the other cold, the streams of which are united by a canal of only eighty feet in length, so as to form warm baths. At the Hot Springs in Virginia, the visitor can lay one hand on a cold and the other on a warm rill at the same moment. This is done with equal ease in the case of a cold rivulet, and a warm spring in one of the Feejee Islands. In the valley of Turners, in St. Michael's (one of the Azores), the two kinds of springs are so near each other, that the thumb may be placed in one of the temperature of 70° to 80° F., and the forefinger of the same hand in another, the heat of which is 190° to 200° F. At the Caldeeras, other hot springs in this island, in the crater of an extinct volcano, there is an oval pond, filled partly by hot water rising in the mud, and partly by means of hot and tepid and cold springs in other parts of the crater, the waters of which are collected into a smaller pond, and let into the larger one as occasion may require. When pond number one is filled for use, the contents resemble warm milk and water, wherein gas and steam are blowing constant bladders, which float lazily along the surface, and at length burst and form a creamy scum.

Not only are springs subterraneous, but they are also submarine. The main ones are seen bubbling up to the surface of the sea, and sometimes diffusing their heat to a considerable distance. Examples of this nature are met with in the island of Milo in the Levant, and at Vanua Levu, one of the Feejee Islands. In a bay of the latter stands a knoll of basalt, measuring about thirty feet by fifteen, which is covered with two feet of water at high tide. At the centre of this island-rock, which is partially hollowed out, there are several jets of boiling water. Similar phenomena are seen in the small islands in a bay (Braidenord) of the northwestern part of Iceland. Innumerable fresh-water and many mineral and thermal springs gush out from the beds of rivers and lakes, as the instance of the hot spring rising in the Sutledge, previously noticed.

The periodical rise and fall of certain springs constitutes another of the curiosities worthy of notice. This intermission is accompanied by the extrication of a large quantity of gas, which is usually carbonic acid. The evolution of gas or vapor goes on to a certain extent until it produces a strong pressure and consequent elevation of the water in the spring, which then falls until there is another accumulation of gas or of vapor. Intermitting springs are most common in volcanic districts; examples to this effect are furnished in the Geysers of Iceland, and in the hot springs of St. Michael and New Zealand. Colonel Fremont describes a spring in the region of the Great Salt Lake, in a volcanic district, which projects its water to the height of three feet from the ground, at irregular intervals. A subterranean noise is heard at the same time, which, together with the motion of the water, readily suggested its name of Steamboat Spring. Of a similar intermittent character are the Mineral Spring in Hungary, the saline one at Kissungen in Bavaria, and the one in Canada, forty miles from Montreal.

The Great Geyser, after many hours of tranquillity, projects its boiling water from a level of 12 or 14 feet below the surface of the ground to a height of 100, sometimes 150, feet above, the eruption being preceded by a thundering noise and shaking of the ground. The salt spring of Kissungen ebbs and flows five times daily, giving out enormous quantities of gas. In all these cases there is never an interruption to the supply of water in the spring, but only an increase of the quantity at certain intervals.

The most extraordinary example of intermission is that of the heat of a thermal spring, in a jungle between Banda and Bohuree, in Hindostan. Its usual temperature is 124° F.; but in the month of April, at the time of the full moon, this is reduced to 94° F., so as to allow of the natives, who assemble in large numbers for the purpose, bathing in its waters. Among the hydrographic curiosities of Cashmere is the ebbing and flowing spring at Sardi Breri, near the great gushing spring of Kolzen Nag. The spring is in the form of a small basin, eight feet deep, and three or four yards wide. About the time of the No Rez, or new day, as the vernal equinox is termed, a little more water than usual is observable in the basin; but it subsides again. Two months later, the water ebbs and flows rapidly for a quarter of an hour, three times a day, morning, noon, and evening. Hindoo faith attributes great virtues to the water at its rise on the 13th of June. The cause of the ebb and flow is supposed to depend on the different degrees of heat at different hours of the day, by which a greater or less quantity of snow is melted, and water furnished thereby to the spring.

PHILADELPHIA HOSPITAL.—Many of our readers are aware that this hospital, located at Blockley, on the west bank of the Schuylkill, is the great eleemosynary institution of this city, accommodating annually many thousand inmates affected with all kinds of diseases and injuries to which "flesh is heir." At this moment it contains nearly 2500 persons, most of them in need of professional aid. The number of deaths is from 500 to 800 a year. We mention these data to show what immense advantages the establishment *might* afford if it were properly conducted, as a theatre for clinical teaching and the study of pathological anatomy. As originally organized, it had its regular medical and surgical staff; and for many years it was the great clinical school of the country. Men of great distinction, such as Jackson, Dunglison, Gibson, Horner, Mitchell, Morton, Harlan, Pancoast, and Gerhard, were engaged in its service; and pupils flocked to it from all parts of the country to receive instruction in medicine, surgery, and midwifery. Many of the resident physicians — nearly always young graduates—have since risen to usefulness and distinction, dispensing the blessings which they received from the opportunities they derived from their sojourn in the establishment. By and by, the spirit of caprice seized the Trustees of the Hospital, and all of a sudden, without any provocation whatever on their part, the medical and surgical attendants were dismissed in a body, and clinical instruction suspended. Subsequently, through the influence, chiefly, of a few determined and influential physicians, the old order of things was, in some degree, reinstated, with the difference, however, that the Superintendent, instead of being a layman, as he had been originally, was now a medical man, with permission to exercise, virtually, all the rights and privileges of a medical and surgical chief. The medical and surgical staffs were, in fact, mere subordinates, subject to the will and caprice of the Superintendent. They had, it is true, the right to prescribe and to operate, as well as to deliver clinical instruction; it often happened that the most grievous obstacles were thrown into their way, and their functions were, therefore, frequently merely of a nominal character. The number of students, meanwhile, was comparatively small; for, although the two staffs comprised a great amount of the most able and efficient *materiel*, yet it was quite impossible, under the circumstances, to make the teaching as attractive and useful as it had been under the old *regime*. Still they were ready and willing to go on, inspired with a desire to do all they could for the benefit of the inmates of the establishment, the honor of the Philadelphia profession, and the good of medical science. The measure of their indignation was well-nigh full, when, two months ago, it completely overflowed, in consequence of the appointment to the office of Superintendent, of an individual, who of all men in the country, was probably the most obnoxious to the Philadelphia profession. We allude to Dr. James McClintock. This man, the founder of a medical school in this city, and for many years a teacher of anatomy and surgery, here and elsewhere, abandoned the profession about 1853, became, as is well-known, a public vendor of a number of secret medicines bearing his name, and largely advertised in the newspaper press of the day. It was in consequence of this step, that the American Medical Association, at their meeting at Detroit, in 1856, struck his name from the list of membership. Thus dishonored, first by his own act, and then by that of the most august medical tribunal of the country, Dr. McClintock was elected by the Guardians of the Poor of Philadelphia, who are all Trustees of the Philadelphia Hospital, to the office of Superintendent of one of the greatest charities in the world. The action of this body was, as might have been expected, immediately followed by the resignation of the medical and surgical staff, and of all the resident physicians save one. Dr. McClintock, we are still more sorry to say, was recommended for the post he now occupies, by one of the recently elected Vice-Presidents of the American Medical Association, by several Surgeons of the United States Navy, and by a number, happily, we believe, a small one, of practitioners of this city! We have at present no comments to offer respecting the conduct of these gentlemen, further than to express our deep regret that they should have so far forgotten what is due to their profession as to sign a testimonial in favor of Dr. McClintock as a candidate for so responsible and honorable a position. We are willing to believe that they were asleep when they affixed their sign-manual to the document, and that their personal feelings for an old friend got the better of their judgment. But, while we would throw over them the mantle of charity, we must express, in the most unequivocal terms, our unqualified disapprobation of their proceedings. The motto of every right-thinking medical man should be, "My profession first, my friend next." Of the conduct of the Trustees of the Hospital we have nothing to say; an irresponsible political body, who have no just conception of the honor and dignity of the profession, or of the requirements of medical science, what else could have been expected of them? If Esau could sell his birthright for a mess of pottage, there are men among them, medical men, too, we are told, who would not hesitate to sell the honor of the profession for an equally sensual consideration.

We have said more about this matter than we had at first intended. As public journalists, jealous of the honor and dignity of the profession, we have a duty to perform, and we should scorn ourselves if we could stand by, and see that profession wronged and abused in any manner, without expressing our sense of disapprobation at its aggressors. We will only add that the College of Physicians of Philadelphia, and the Philadelphia County Medical Society, whose resolutions we publish below, and whose honor has been so wantonly outraged in this transaction, should exert themselves in every possible way, to correct the evil here spoken of. We are satisfied that none but the most thorough and official measure will be of any avail. Are they ready to act in the matter?

At a meeting of the College of Physicians of Philadelphia, held July 1st, 1857, the following Preamble and Resolutions were unanimously adopted:

Whereas, The Board of Guardians of the Poor, at their meeting of the 8th of June last, elected to the office of Chief Resident Physician of the Philadelphia Hospital, Blockley, Dr. James McClintock, whose name had been stricken from the roll of the American Medical Association, at its annual session, held in the City of Detroit, in May, 1856, in consequence of his having abandoned the ranks of the Profession, and assumed the degrading position of a manufacturer and vendor of empirical and secret medicines; therefore be it

Resolved, That the selection of the said individual to fill the important and honorable office above referred to, made in the face of the verdict of the Association, a verdict by virtue of which he is no longer recognized as a member of the Medical Profession, is indignantly pronounced to be a gross and gratuitous outrage on the feelings of every member of that profession, not only in this city but in the country at large, and as such meets with the unqualified disapprobation of the College of Physicians.

Resolved, That the College takes this early opportunity of tendering its cordial and entire approbation of the course pursued by such of the Assistant Resident Physicians of the Institution mentioned above—namely, Drs. C. P. Tutt, of Va.; J. H. Berrien, of Ga.; J. Cummiskey, of Philadelphia; Thomas Marshall, of Va.; X. X. Xaupi, of Mo.; and J. S. Coleman, of Ga.—as have, at the sacrifice of most valuable opportunities of clinical instruction, promptly and unhesitatingly resigned the position they therein held, sooner than serve under a chief outlawed by the highest medical tribunal of the land, and with whom no physician, alive to a sense of self-respect, and having at heart the honor and dignity of his calling, can professionally associate. In so doing, the College further tenders to those gentlemen the assurance that, by thus acting, they have evinced a moral courage and an appreciation of the high obligations imposed upon them by the noble mission upon which they have recently entered, worthy of all praise, and have thereby raised themselves in the estimation of every honorable member of the Medical Profession.

Resolved, That the College has learned, with unfeigned satisfaction, that the entire professional corps attached to the Institution alluded to, have, for the same reason, and to repel the insult offered to them by the recent action of the Board of Guardians, resigned their respective posts.

Resolved, That in the opinion of the College none of its members can justifiably accept office under or hold professional intercourse with the individual referred to in the above resolution, whether in the Institution so improperly placed under his control or elsewhere; and that by following a different course such members would become amenable to the censure of the College, and expose themselves to the penalties which the individual himself would have incurred had he been a member thereof.

Resolved, That the College would learn with deep regret and a feeling of shame, that any of its members had promoted, directly or indirectly, either by letter or otherwise, the election to a post of honor and emolument such as that of Physician in Chief of the largest Hospital in this State, of an individual who for the very grave offence referred to in the preamble has been cast from the folds of the profession, and cannot re-enter it without a formal reversal of the verdict under the effect of which he now labors; and that the said College would think itself obliged, did an event of the kind alluded to occur, to apply to the one guilty of so palpable an infraction of the Code of Ethics by which its members are governed, the penalties imposed on the abettors of quackery.

Resolved, That the College would learn with equal disapprobation that any of its members have recommended to others to take or retain office in an Institution whose Chief Physician, like the present incumbent in the Blockley Hospital, no longer holds an honorable position, if any, in the Medical Profession.

At a special meeting of the Philadelphia County Medical Society, held June 30th, 1857, the following Preamble and Resolutions were unanimously adopted:

As the relations between the Medical Profession and the Community at large imply reciprocity of duties and obligations, no serious injury can be inflicted on the one by the other without reasonable ground of complaint, and call for amendment by the injured party. If it be for the best interests of the community to have in its midst a body of well-educated and competent physicians, ready for all emergencies of individual disease and wide-spreading pestilence, it is the duty of said community to give encouragement and facilities for physicians to reach, and maintain themselves at, the highest standard of medical attainments and medical ethics, for in this way will they be most serviceable and most efficient. An opposite course, as by the election to offices of trust and emolument of individuals, notoriously false to the standard of medical knowledge and of medical ethics, can only be followed by discouragement, and eventually by the introduction into the community of an inferior body of physicians, who will be found substituting their own random modes of practice and selfish empiricism for the accumulated experience of thousands of years, carefully digested and collated, and wisely and conscientiously applied to the mitigation and cure of disease in all its forms. The wound thus inflicted on the Medical Profession, cannot fail to affect injuriously the community, by depriving it, in the hour of danger and of panic, of a body of zealous and trained men—a health-guard, prepared to repel approaching pestilence, or, if it comes, to abate the violence of its attacks, and to save the lives of their fellow-citizens, often at the sacrifice of their own. If recreants to their first and subsequent pledges, deserters from the ranks of legitimate medicine, and impostors, without even the plea in their favor of lengthened experience, be appointed to offices of trust and emolument, one great incentive is wanting for the regular physician continuing to be true to his Code of Ethics, to keep his plighted faith to his fellow-members of the profession, and to be ready, at any moment, to bring his skill and knowledge into the service of a community which would thus discredit him in so marked a manner, as far, at least, as its public and official action can be exerted. But, despite of all these discouragements and insults, the Medical Profession, in its collective capacity, so long as it is governed by a recognized Code of Ethics, so long as its aspirations are to do the greatest good, just so long is it bound, by imperative duty to itself, and to the community of which it forms a part, not only to repudiate all deserters and breakers of their pledges, but also to disclaim any harmony of sentiment or action with those who, in contravention of their ethical obligations, and as members of a Medical Association, have given, or shall hereafter give, countenance and support to such deserters, either by direct recommendation or by holding professional intercourse with them.

Moved by considerations of this nature, and under the settled convictions of the professional lives of its members, the Philadelphia County Medical Society hereby declares its deep mortification and disgust at the recent appointment to the office of Chief Resident Physician of the Blockley Hospital, of a Dr. James McClintock, a man whose antecedents, in no sense, entitle him to such a mark of public confidence.

A few years ago he proclaimed himself to be a deserter from the ranks of the Profession, by selling whatever reputation he had at the time, together with a certain number of recipes of so-called "Family Medicines," to which his name was attached, but the composition of which was kept secret. These were advertised and recommended in the manner and style usual in the case of other nostrums and quack medicines. Such proceedings are strictly prohibited in the Code of Medical Ethics adopted by the National Medical Association, to the support of whose laws and regulations he, in common with every member of that body, had pledged himself. His expulsion from the Association followed this breach of his pledge and infraction of its laws. The Code of Medical Ethics declares it to be derogatory to professional character "for a physician to hold a patent for any surgical instrument, or medicine, or to dispense a secret nostrum, whether it be the composition or exclusive property of himself or of others. For, if such nostrums be of real efficacy, any concealment regarding it is inconsistent with beneficence and professional liberality; and if mystery alone gives it value and importance, such craft implies most disgraceful ignorance, or fraudulent avarice. It is also reprehensible for physicians to give certificates attesting the efficacy of patent or secret medicines, or in any way to promote the use of them." Every physician, acquainted with the first principles of medicine, knows that the promise held out by the maker and vendor of a quack medicine or nostrum, that it will cure a number of diseases of totally different natures, occurring in both sexes and in all ages, or that it will cure any one disease in all its stages, is, of necessity, false, cruelly false and mischievous, both in its direct consequences in the aggravation of disease, and too often destruction of life, if the article or compound has any activity; and indirectly, by excluding a rational treatment. On these grounds, which are those of common humanity and fair-dealing, quackery is always abhorrent to the mind of every well-educated and conscientious physician.

A few years' perseverance in his evil course of quackery, brought with it disappointment and failure, loss of money, in addition to loss of reputation, and the expelled member having become an applicant for the highly responsible and lucrative office which he now holds, makes an implied acknowledgment of the failure of his speculation on public credulity, by publishing the recipes of his "Family Medicines;" but he makes no formal recantation of previous wrong-doing, or promise of future amendment. There is no assurance offered that he will not engage in similar speculations on a somewhat different foundation. Is such a moment a fitting one for electing this person to an office of trust and emolument, when he is still degraded in the profession; and without waiting for the only legitimate proof of his repentance being regarded as sincere, viz., his restoration to membership in the National Medical Association? In the Philadelphia County Medical Society he has never obtained a footing.

Believing that it fully expresses the sentiments and opinions of not only its own members, but of the Medical Profession throughout the United States, the Philadelphia County Medical Society hereby adopts unanimously the following resolutions:

1st. That it offers its cordial congratulations and assurance of continued interest in their future welfare to the six gentlemen, viz.: Doctors Tutt, of Va.; J. H. Berrien, of Ga.; J. Cummisky, of Phila.; Thomas Marshall, of Va.; X. X. Xaupi, of Missouri, and J. B. Coleman, of Ga., who, at a great sacrifice of opportunities for acquiring clinical experience, resigned, at once, their posts, as Assistant Resident Physicians of the Blockley Hospital, rather than be exposed to the professional intercourse with the obnoxious Chief Resident Physician who had just been appointed.

2d. That any countenance which has been given by a member or members of the Medical Profession, in the way of verbal or written recommendations to the individual who is now Chief Resident Physician of the Blockley Hospital, and an expelled member of the National Medical Association, renders them amenable to censure for a breach of medical ethics, and to the same penalty which has been incurred by this person, with whom they may be said virtually to be in league.

3d. That the prompt resignation of the gentlemen who comprised the consulting medical, surgical, and obstetric staff, at the Blockley Hospital, in order to avoid the stain of official association with the Chief Resident Physician, and in accordance with their known principles and practice, meets with the entire approval of this Society.

4th. That this Society cannot but deprecate the very idea of any of its members holding office under or with the present Chief Physician of the Blockley Hospital, and can only regard such an act as a voluntary loss of membership, and in the case of a physician who is not now a member, as an absolute disqualification for his becoming one.

THE LATE MEETING OF THE AMERICAN MEDICAL ASSOCIATION AT NASHVILLE.—The meeting of this body in

May last at the capital of Tennessee, presents several points for comment. In the first place, we had hoped, after what had been said by our esteemed cotemporary the Nashville Journal of Medicine and Surgery, that the medical profession of Nashville would have declined to enter the arena for the office of President of the Association, on the ground that the practice of conferring that post upon a physician, resident at the place where the meeting is held, ought to be abolished. The reasons urged by the Nashville Journal and several similar publications were cogent and full of point, and yet, notwithstanding this, one of the very editors of that periodical allowed himself to be nominated for the office. We mean no disrespect to the distinguished gentleman, when we say that we regret this step, because many of the opponents of the custom, which would certainly be more honored in the breach than in the observance, had reason to believe that it would have been abandoned. It is no honor to a man to be elected to office under such circumstances. It is a concession to the place; or in other words, to good eating and good cheer. We believe there is no other body of a similar kind in this country, among whom a similar custom prevails. The Moderator of the General Assembly of the Presbyterian Church, is seldom, if ever, selected from the clergy of the place where its meetings are held.

Secondly, The American Medical Profession and the American people at large, had a right to expect, after the adoption, by an almost unanimous vote, of the resolution at St. Louis, in 1854, that the custom which, up to that period, had existed, of entertaining the profession with an expensive feast, would not have been revived at the capital of Tennessee. We are told, it is true, that the Profession had no participation in the expense of the ball and supper, but that they were gotten up and paid for by the citizens of Nashville. Would it have been wrong in the Profession of Nashville, to have said to their fellow-citizens, that there was a resolution upon the minutes of the proceedings of the Association, declaring that all public displays of this kind, should henceforth form no part of the *transactions* of that body?

Thirdly, The meeting was a meagre one, both in respect to the number of its attendants, and in the value and importance of its transactions. Hardly any reports were presented; in almost every instance the chairmen of the different committees asked for further time. This is not as it should be. The Association, to carry out the right principles, with which it originally set out, should be more of a working, and less of a pleasure-seeking body. The committees should make it their duty to discharge, with promptness and fidelity, the trust confided to them. It is a bad example to hear so many of them say, that they are "not ready to report;" an example which is apt to become infectious, and to lead ultimately to the past prejudicial results. We should wake up upon this subject. To make the Association what it should be we must work more, talk less, and use a lighter diet. Moreover, the meetings should extend at least over one entire week. It is folly to think that any important business can be transacted in two or three days, by a body so large and unwieldy as this. Besides, the thing is absolutely undignified. As the matter now stands, we literally meet only to adjourn.

JEFFERSON MEDICAL COLLEGE.—The

chair of Materia Medica and Therapeutics in this Institution, rendered vacant by the resignation of Professor Huston, on account of ill health, has been filled by the appointment of Professor Thomas D. Mitchell, well known as an accomplished lecturer and writer on Materia Medica and Therapeutics. We are happy to add, as will be seen by the following resolutions of the Board of Trustees, that Professor Huston retains his connection with the College as Emeritus-Professor.

Resolutions of the Board of Trustees of Jefferson Medical College of Philadelphia, on the occasion of the resignation of Professor R. M. Huston.

Resolved, That the Board of Trustees of Jefferson Medical College, in accepting the resignation, by Professor Huston, of the Chair of *Materia Medica and General Therapeutics*, do express their regret at the causes which have given occasion to it, and their fervent hope, that he may yet enjoy many years of restored health and usefulness.

Resolved, That the Board, deeply sensible of the benefit which has accrued to the Institution from the talent and zeal so energetically exerted by Professor Huston during the eighteen years in which he has been connected with the Institution, do confer upon him the honorary distinction of *Emeritus Professor of Materia-Medica and General Therapeutics* in the Jefferson Medical College of Philadelphia.

The following Resolutions were unanimously adopted by the Faculty, upon learning that Professor Huston had vacated his chair.

Resolved, That whilst the Faculty of Jefferson Medical College have had the apprehension for some time, that the impaired health of Professor Huston might lead him to resign his position as Professor of Materia Medica and General Therapeutics, they had indulged a hope, that he might still be able to execute the duties devolving upon him in a manner that might be creditable to himself, and advantageous to the Institution.

Resolved, That the Faculty do deeply deplore the circumstances which have led to the resignation of one who has so zealously and efficiently labored in the great cause, in which they have all been engaged so long, and so harmoniously, and with a success unexampled in the history of similar Institutions.

Resolved, That the Dean of the Faculty do communicate these resolutions to Professor Huston, with an assurance, that the most respectful and affectionate regards are entertained for him by his colleagues ; and that he has their profound sympathy in his sufferings, and their sincere wishes for his entire restoration.

CHANGES IN MEDICAL SCHOOLS.—Dr. Theodore S. Bell, of Louisville, has been appointed to the chair of Medicine in the University of Louisville, in the place of Professor Rogers, who will hereafter lecture exclusively on Clinical Medicine. Dr. George W. Bayless, formerly Demonstrator of Anatomy in the University of Louisville, has received the appointment of Professor of Physiology and Pathological Anatomy in the Kentucky School of Medicine. The Miami Medical College at Cincinnati has been absorbed by the Medical College of Ohio, which takes four of its professors, Judkins, Comegys, Foote, and Mendenhall, leaving all the others unprovided for, excepting Dr. Armor, who has just received the appointment of

Professor of Pathology and Clinical Medicine in the Missouri Medical College of St. Louis. Dr. George S. Blackie, a graduate in medicine of the University of Edinburgh, has been elected to the chair of Botany in the Collegiate Department of the University of Nashville. Dr. J. C. Nott, of Mobile, takes the chair of Anatomy in the University of Louisiana, rendered vacant by the resignation of Professor Wederstrandt.

FOREIGN TEXT-BOOKS.—The St. Louis University, in its Annual Announcement for the current year, recommends twenty-five text-books, of which only three are American! We take it for granted, that the Institution, which furnished the American Medical Association with its President (at its meeting three years ago), has not a very exalted appreciation of American authors.

In the Jefferson Medical College, of fifteen text-books, mentioned in the Annual Announcement, four and a *half* are foreign, the remainder being the works of its own professors, with the exception of the excellent treatise on the Diseases of Children, by the younger Meigs. The *half* book is the work of our learned collaborator (and an excellent one it is), Dr. John Bell, as comprised in Bell and Stokes's Practice of Medicine. Professor Pancoast recommends Wilson's Anatomy, and his edition of Quain's Anatomical Plates. Professor Bache seems to prefer Fownes's Chemistry to that of Draper or Silliman.

The Pennsylvania Medical College enumerates thirty-five text-books, of which ten are American; of the latter, four are works of its own Faculty.

Of the number and nature of the text-books used in the University of Pennsylvania, we are unable to give any account, as no mention of them is made in the Annual Announcement of the School.

The Philadelphia College of Medicine recommends thirty-one text-books, of which nine are American.

OPHTHALMOLOGICAL CONGRESS.—Physicians and Surgeons, in all parts of the world, interested in the study of Ophthalmology, are invited to convene at Brussels, on the 13th of September next, to deliberate upon the best method of arresting the spread of inflammation of the eye, so common in some of the continental armies of Europe. It is stated, in the circular calling attention to the subject, that the disease is of frightful extent and virulence, that it has already desolated several armies, and that it counts daily new victims among the people with whom the disabled soldiery come in contact, thus clearly showing its contagious character. Statistics of this disease, and other matters of ophthalmic interest, will engage the attention of the meeting. Invitations have been issued to different scientific physicians and surgeons in the United States. We regret to learn that there will be no delegates from this city, although we understand that interesting communications have been forwarded by Dr. Hayes, Dr. Littell, and Professor Gross.

CONGRESS OF GERMAN PHYSICIANS AND NATURALISTS.—This distinguished body will convene at Bonn, on the 18th September, and be in session one week.

MARRIAGES OF CONSANGUINITY.—Dr. Bemiss, of Louisville, Kentucky, whose article on "Marriages of Consanguinity," in a former number of the Review, has been so extensively copied by European journalists, proposes to continue his inquiries into the subject, and with this view invites contributions from his professional brethren, in all parts of the country, on the following points, to be forwarded to him by the 18th of January, 1858.

1. The degree of Consanguinity of parties (whether first, second, third, or fourth cousins; or, as in rare instances, uncle and niece).

2. The date (approximative) of marriage.

3. The number, sex, and *condition* of children born to each marriage.

4. The number of children dead, cause of death, and age when known.

5. The constitution, temperament, and occupation of parents, with any habits or circumstances calculated either to favor or retard the normal development of offspring.

Foreign Honors to an American Surgeon.—Dr. W. J. Holt, of Augusta, Ga., has just received, through the Russian minister to this country, the "decoration" of Commander of the Imperial Order of St. Stanislaus, in consideration of his services during the campaign in the Crimea. The cross is of massive gold, and beautifully wrought. Dr. Holt was appointed member of the Order of St. Anne, while still in the service of Russia; and this second compliment, now that he has left that service, testifies to the Czar's appreciation of the ability with which the surgeon's duties were discharged.

New Medical Works.—Messrs. Lippincott & Co. have in press, and will issue, early in October, a revised and enlarged edition of Professor Thomas D. Mitchell's Materia Medica and Therapeutics. The same firm will also publish, at an early day, a treatise, by the same author, on Fevers, with special reference to these diseases as they prevail in the United States. The work will form an octavo volume of about 650 pages, and will comprise a full and comprehensive digest of the existing state of the science, with an incorporation of the author's personal experience.

Professor Austin Flint, of Buffalo, the former able and accomplished lecturer of medicine in the University of Louisville, is actively engaged upon the preparation of a work on the Diseases of the Heart, a subject which has, for many years, occupied much of his attention at the bedside, both in private and hospital practice. To those who are acquainted with Professor Flint's writings, it is needless to say that he will produce a work which will be alike creditable to himself and honorable to our national medical literature.

Number of Students at the German Universities.—The *Moniteur des Cours Publiques* gives the following as the number of students at the German Universities in 1856, with the exception of Vienna:

	Germans.	Foreigners.
Berlin,	211	54
Bonn,	90	6
Breslau,	128	13
Erlangen,	102	4
Fribourg,	44	4
Giessen,	121	25
Göttingen,	77	78
Geisswald,	99	2
Halle,	47	—
Heidelberg,	60	61
Jena,	38	11

	Germans.	Foreigners.
Kiel,	38	4
Konigsberg,	81	4
Leipsic,	167	59
Marburg,	65	8
Munich,	202	37
Rostock,	19	—
Tubingen,	100	11
Wurzburg,	97	222

ELECTION.—We have just learned that Dr. Wm. H. Gobrecht, of this city, has been elected to the chair of Anatomy, in the Philadelphia College of Medicine.

NECROLOGICAL NOTICES.—Lately, at Lacken, Sir Robert Carswell, Physician in Ordinary to the King of the Belgians. The deceased was born at Thornbank, in Scotland, and had attained his 64th year. He was one of the largest contributors to the "Encyclopædia of Practical Medicine," and was the author of "Illustrations of Morbid Anatomy," a work which is well-known to the profession of this country.

Sir James Eyre, M.D., L.R.C.P., died suddenly on June 19th. He was the author of "The Stomach and its Difficulties."

"Sir James Eyre was born in 1792. His father was a Buckinghamshire clergyman. From 1806 to 1811 he was a pupil of Mr. Devanport, a Surgeon of Harborough. In 1811 he became a house pupil of Mr. Phillips, the Surgeon to the Marylebone Infirmary. In 1812, he became House Surgeon to this Infirmary. He attended the Windmill Street School, and St. Bartholomew's, and in 1813 went to Hereford to assist the late Mr. Griffiths. He came to town in 1814 to pass the College of Surgeons, and returned to Hereford to practise as a Surgeon. He married in 1816, worked hard as a surgeon, was elected a member of the corporation, and in 1829 Mayor of Hereford; his father, then 78 years of age, coming to preach the inauguration sermon. In 1831, on the accession of William IV, an address of congratulation was presented to the sailor king, and the Mayor of Hereford was knighted, the Mayors of Hereford and Liverpool being the only two who received the distinction on that occasion. From 1831 to 1833 Sir James studied medicine afresh in Edinburgh and Paris, and took the degree of M.D. at Edinburgh, in 1834. He settled in London in the same year, and was elected Physician-Accoucheur to the St. George's and St. James's Dispensary, which office he filled for seventeen years, when he gave up midwifery practice. He became a licentiate of the College of Physicians in 1836. In 1845 he published his work on "Exhausting Diseases," strongly recommending the oxide of silver. In 1852 his "Stomach and its Difficulties" apappeared. For several years past he resided in Brook Street, but he never had an extensive medical practice in London. He attended Her Majesty's *levée* on Thursday, and was quite well until late that evening, but on Friday morning he had gone from among us."—*London Med. Times and Gazette.*

Died, May 28th, at Palermo, in Sicily, in the 80th year of his age, John Howell, M.D., Deputy Inspector-General of Military Hospitals.

Bi-Monthly Bibliographical Record.

AMERICAN.

Elements of Pathological Anatomy. By Samuel D. Gross, M.D. Third edition, modified and thoroughly revised. Illustrated by three hundred and forty-two engravings on wood. 8vo. pp. 771. Republished by Blanchard & Lea, Philadelphia, 1857.

On Dysentery and its Treatment. By Henry Tiedemann, M.D., of Philadelphia. 12 mo. pp. 29. Philadelphia, 1857.

Therapeutic Cultivation; its Errors and its Reformation: an Address delivered to the Tennessee Medical Society, April 7th, 1857. By E. B. Haskins, M.D., President. Pp. 28. Nashville, 1857.

An Address delivered before the Medical Society of the State of Pennsylvania, at its Annual Session, held in West Chester, in May, 1857. By R. La Roche, M.D., President of the Society. 8vo. pp. 51. Philadelphia, 1857.

An Address on the Life and Character of the late Professor, John Lockey, delivered at the request of the Cincinnati Medical Society. By M. B. Wright, M.D. 8vo. pp. 72. Cincinnati, 1857.

Early History of the Operation of Ligature of the Common Carotid Artery. By James R. Wood, M.D., Surgeon to Bellevue Hospital, President of the New York Pathological Society, &c. Reprint. 8vo. pp. 58. New York, 1857.

An Inaugural Thesis on Intra-Capsular Fractures of the Cervix Femoris. By John Geo. Johnson. Pamphlet. Reprint, pp. 32. 8vo. New York.

FOREIGN.

A Guide to the Treatment of Diseases of the Skin; with Suggestions for their Prevention: for the use of the Student and General Practitioner. By Thomas Hunt, F.R.C.S., &c. 2d edition. London, 1857.

Lives of British Physicians; Second edition, with the following lives added: Dr. Merriman, Dr. Paris, Dr. Halford, Dr. Chambers, and Dr. Clutterbuck. 8vo. pp. 416. London, 1857.

How to work with the Microscope. By Lionel Beale, M.B., F.R.S. London, 1857.

The Medical Profession. By Edwin Lee, M.D., &c. 8vo. London, 1857.

The Baths of Germany, France, and Switzerland. Two volumes in one. Third edition. By Edwin Lee, M.D. London.

Baths of Rhenish Germany. By Edwin Lee, M.D. London.

The Effect of Climate on Tuberculous Disease. (A Prize Essay.) By Edwin Lee, M.D. London.

The Structure and Functions of the Eye, Illustrative of the Power, Wisdom, and Goodness of God. By Spencer Thomson, M D. Illustrated by nearly one hundred engravings, London, 1857.

Hugman on Hip-Joint Disease: with reference especially to Treatment, by Mechanical means for the Relief of Contraction and Deformity of the Affected Limb. By Wm. Curtis Hugman, F.R.C.S., &c. London, 1857. 8vo.

Advice to Officers in India. By John M'Cosh, M.D., late of the Bengal Medical Staff. London, 1856.

Hygienic Medical and Surgical Hints for Young Officers of the Royal, and of the Merchant Navy. By W. M. Saunders, M.D., Surgeon, Royal Navy. London, 1856.

An Introduction to Clinical Medicine. By J. Hughes Bennett, M D., F.R.S.E., &c. Third edition. Edinburgh, 1857.

The Constitution of Women as Illustrated by Abdominal Cellulitis, or Inflammation of the Cellular Membrane of the Abdomen and Pelvis. By Charles Bell, M.D., &c. Edinburgh, 1857.

Traité Pratique des Maladies de la Peau, Par Alph Devergie, Médecin de l'Hôpital Saint Louis, &c. Deuxième édition. 8vo. Paris, 1857.

Guérison Radicale de la Goutte. Par le Docteur G. Bosel de Mens, Médecin adjonct de l'Hôtel Dieu, &c. Paris, 1857.

La Revue Pharmaceutique de 1856. Supplement à l'officine pour 1857, Par Dorvault, Pharmacien, Directeur Fondateur de la Pharmacie Centrale des Pharmacien de France. Paris.

Lehrbuch der Histologie des Menschen und der Thiere. Von Dr. Franz. Leydig. Frankfurt, 1857.

THE

NORTH AMERICAN

MEDICO-CHIRURGICAL REVIEW.

NOVEMBER, 1857.

Analytical and Critical Reviews.

Art. I.—*De l'Influence de la Navigation et des Pays Chauds, sur la Marche de la Phthisie Pulmonaire.* Par M. Jules Rochard. Second Chirurgeon marin au Port de Brest. (Mémoires de l'Académie Imperiale de Médécine, T. XX.)

On the Influence of Sea-Voyages and Warm Climates, on the March of Phthisis Pulmonalis, &c. &c.

On the Effects of Climate on Tuberculous Disease. By Edward Lee, M.R.C.S. London. Fiske Fund Prize Essay. In the American Journal of the Medical Sciences, April, 1857.

Le Climat de l'Italie sous le Rapport Hygienique et Medical. Par le Docteur Ed. Carriere. A Paris, 1849, pp. 582. 8vo.

The Climate of Italy in its Hygienic and Medical Relations. By Ed. Carriere, M.D.

On the Curative Influence of the Climate of Pau, and of the Mineral Waters of the Pyrenees in Diseases. By M. A. Taylor, M.D. Pau, 1843, pp. 437. 8vo.*

There are two propositions which may be laid down and affirmed at the present time, regarding Pulmonary Consumption. They are, 1, that little is known respecting the sanative influence of climate on this disease;

---

* We avoid the seeming affectation of giving the title of the French translation of this work, which we have in our possession, and of which we make use; not knowing, when we procured it, that the original was in English. This last we have seen but have never read.

and, 2, that it is curable, for it has been cured, but by what means, or under what circumstances precisely, cannot be said. By far the greater number of instances of this favorable nature have been brought about spontaneously, or under circumstances not represented by any definite, or at the time recognized hygienic or therapeutic agencies, such as could be repeated with any prospect of similar results. In reference to the first proposition, if an acknowledgment of ignorance be the first step to knowledge, we may entertain some hopes of a better acquaintance with the real operation of climate in phthisis. Hitherto, or until quite recently, the process of reasoning, and the practical deductions from it, were of a purely negative kind. As a residence in a country, the climate of which was distinguished by certain obvious characteristics, was found to be prejudicial, by its causing and aggravating phthisis, it was inferred that removal to another country, the prominent traits of the climate of which were different from the first, must necessarily be beneficial; and, accordingly, the patient was sent on his journey, buoyed up with hopes of cure, but which, in the majority of cases, were found to be utterly fallacious. There were once persons in England, silly enough to believe that, when they crossed the Straits of Dover, and had fairly got into France, they had made a beneficial exchange of climate; and that their weak lungs would be improved by a change from London to Paris. They were ignorant of the terrible frequency of both acute and chronic diseases of the lungs in the French capital; and of a state of atmosphere, there, during the winter months, far more trying than that which they had left behind; while they encountered an absence of domestic comforts and house arrangements which they had enjoyed at home. We are afraid that this class is not yet entirely extinct, and that it is, to a certain extent, kept up by the credulous from our own country, who, in the midst of the pleasures and gaieties of Paris, try to persuade themselves that they are gainers also on the score of health. Perilous mistake, to drain the cup of Circe, as if it were a draught from the fountain of Hygeia!

For the last century and a half, invalids with weak chests, and sufferers from chronic pulmonary disease, and especially phthisis pulmonalis, have been in the habit of visiting the south of France, and spending the winter there. How little they were guided in this measure by positive knowledge and experience, was evident from the selection of Montpellier, the name of which, for a long time, was used as synonymous with a healthy spot, enjoying a pure and sanative air. How such a reputation came to be produced passes understanding. As this town was, for a long time, the seat of a celebrated school of medicine, some of the teachers in the latter may have persuaded the credulous youth from other countries, and particularly that portion of them from England, Holland,

and North Germany, that while they were imbibing medical lore, they were also inhaling a genial and exhilarating air, and receiving in their own persons the double gifts of Minerva and Apollo, the latter of whom it is known, is sometimes regarded as the tutelary deity of medicine. Whatever may have been the origin of the belief, one thing is certain, that it took firm hold of the minds of all Europe, notwithstanding the occasional dissent of such popular writers as Sterne and Smollett among the English. Smollett made grievous complaints of the deceptive views held out respecting the climate, not of one spot only, but of Provence entire. Sterne, who had been subject to hæmoptysis and pleurisy, writing from Montpellier, February 1st, 1764, says: "I have been dangerously ill, and cannot think that the sharp air of Montpellier has been of service to me; and so my physicians told me when they had me under their hands for above a month. 'If you stay any longer, sir, it will be fatal to you.' 'And why, good people, were you not kind enough to tell me this sooner?'" A very natural question, which might be enlarged for the benefit of physicians everywhere, by their being asked also, "Why not, learned gentlemen, make yourselves acquainted with the climate of the place in which you live and practise your profession, so as to be able to tell invalids what they may expect by taking up their residence or prolonging their stay among you?" The advice dates as far back as Hippocrates, who, old fogy as he may be regarded by young medicine, has uttered many good things besides this. Thirty years ago, or more, when lecturing on the climate of the Mediterranean in phthisis, we used the following language: "Of Montpellier, we no longer speak as a residence for persons in consumption, any more than of Aix or Avignon. The physicians of these places send away patients laboring under the disease. To inculcate, however, the extreme importance of attending to the circumstances of aspect, as regards the exposure of a place to particular winds, we may mention that Montpellier is beautifully situated upon a hill: the town surrounds and covers it, and of course it has a northern as well as a southern aspect. The physicians and inhabitants are well aware of the difference presented in these exposures. It is on the southern side alone that the invalid is permitted to promenade; and where health is in danger, a house is selected, sheltered from the keen northern blasts." We were, perhaps, premature in our conclusions, that Montpellier was no longer spoken of as a residence for the consumptive. We fear that the delusion on this point is not entirely dispelled, even at the present day, and that there are not wanting some persons, who, in their early life, had read of Montpellier, and still put faith in such language as that used in a work prepared with so much care as the *Encyclopedia Americana*, 1832, viz.: as a town "particularly celebrated for the salubrity of the air," and "much visited by invalids from foreign countries."

A better knowledge of Montpellier climate might be procured, even by retrospective reading, in some other directions than the common and popular one. We can hardly expect this, however, from general readers, or even scholars, when the professional ones are so little inclined to such an exercise of their faculties. As far back as the year 1805, M. Baumes, in a work on pulmonary phthisis, expressed himself in the following terms: "The north is the most prevalent wind in winter and spring; its force is often very uncomfortable, for it is very cold, after its passage over the snow of the mountains adjoining. One must have a well-constituted chest to resist its effects." Five years later, or in 1810, in a topographical notice of Montpellier, by Muret, it is stated, that out of 2750 patients admitted into the Hôtel Dieu, the chief hospital of the town, in 1763, there were 154 deaths, of which 55, or more than one-third, were from phthisis. Well might poor Sterne express his disbelief in the sharp air of Montpellier having been of service to him. We will not say *ab uno disce omnes,* but we do say that the undeserved reputation which one town in the south of France acquired, as a proper residence for consumptive invalids, should make us slow to put faith in the reputed favorable hygienic conditions of other places, either in this region or south of the Alps, in Italy itself: at least it should induce us to scrutinize rigidly the climatic elements which can entitle them to our confidence.

Climatology, bearing any semblance to a scientific inquiry, and advancing beyond the ancient division of the earth into zones, and some empirical observations made at different times in certain localities, can only be said to date from the labors of Alexander Humboldt, in which he was aided by Von Buch. Among later laborers in this field, the names of Dove, Boudin, and Blodgett, deserve more conspicuous notice. The isothermal lines which he indicated, and in part worked out, were substituted, in the study of climatology, for lines of latitude, with which they not only are not parallel, but do not, in many regions, correspond with each other. One great step was thus made in showing that places in Europe and America, for example, differing by many degrees in latitude, have the same medium heat throughout the year, or are on the same *isothermal* line. Thus, for example, Philadelphia and London, separated from each other by eleven degrees of latitude, are nearly on the same isothermal line, or that of 50° F. But even this fact being established, must not lead to an inference that they possess an identical climate, or that their vegetable productions are the same. A very hot summer and a very cold winter in one, may give the same mean annual temperature as in the other, which has a summer less hot, and a milder winter. And again, places are found to have a like summer temperature, or to be on the same *isotheral* line, without their being on the same isothermal one; and places may have their winter of the same temperature, or be on the same *isocheimal* line, and yet be on different isothermal as well as isotheral lines. It is very evident, from these new and more numerous data for forming a better judgment of the climate of a place, and for instituting a comparison between it and any other, either with a view to discover a resemblance or to detect a difference, that a mere knowledge of the mean annual temperature is only an element in the calculation. It would not serve us in better stead, as indicating or even suggesting fitness for the abode of an invalid, than if we had saved ourselves all the trouble of daily thermometrical observation and record, and reached the same result by simply ascertaining the temperature of the springs, or of the wells of the place under examination. But if we ask for the difference between the temperature of what may be called the winter half of the year, or that from the 1st of October to the 1st of April; and of the summer half, or that from the 1st of April to the 1st of October, then will the annual register be of some value, and help us in our inquiries for a winter residence suitable to an invalid with weak or positively diseased pulmonary organs. We say help, for temperature is only one of the elements that make up climate. The hygrometer has to be watched, and its changes noted, so that we may form an idea of the relative humidity or dryness of a place, about the salubrity of which we would inquire in our hygienic tour of inspection. Yet another and a very important element, perhaps we ought to say condition, since it is compounded in part of temperature and in part of the hygrometric state of the air, comes up for observation and study. We mean the prevalent winds, and the force with which they blow. The brow of a hill, a wall even, or a piece of woods, by sheltering an invalid from the keen northerly wind, will place him in quite a different climatic condition from that in which another finds himself on the northern or windward side of these screens, notwithstanding that the medium temperature in which these two persons live may be the same. It is chiefly by such a screen as this, but consisting of a continuous range of lofty houses, that Pisa owes its reputation as a winter residence for consumptive invalids. So, on the other hand, what important modifications in climatic influences, operating on an invalid, are produced by a prevalent southerly wind, particularly on the coasts of the Mediterranean. The various states of the electricity of the atmosphere constitute another, although less readily appreciable element, physiologically considered, in making our acquaintance with climate.

The problem to be solved before we can select a fit residence for an invalid, or recommend him with propriety to leave his own for a foreign land, or even to change his abode in his native country; as for instance, to go from a Northern to a Southern State, or from an Eastern to a Western one, is exceedingly complex; the more so, indeed, for the reason, that, although we may be said to know the elements, we cannot yet appreciate in a satisfactory manner their combination or fusion into what we call climate. The effects of climate are, also, as complex as its composition; and even while we talk of the sanative influence of the air of a particular place on the enfeebled or diseased lungs of an invalid, we cannot forget that this sanative influence, to be effectual, must also be exerted on the digestive and nervous systems, and on the cutaneous as well as on both the respiratory and digestive mucous surfaces. Can we always seize, in our minds, on the atmospheric condition, which allays a marked irritability of the heart, and diminishes the frequency of the pulse, or carry away with us such a definite knowledge of this condition as to serve us for a standard by which we can ascertain the existence of a similar atmospheric condition and character in another spot? While replying in the negative, we are obliged to go a step further, and admit that our practice, so far, in prescribing subjection to new climatic influences is a good deal empirical. Then comes another—a final question: whether, if we could procure access to an air of singular purity, consisting of all the requisite qualities in due proportion, it would be adapted to maintain our organism in its greatest vigor, or to restore it to health when it had been suffering from chronic disease, phthisis or scrofula, for example? Might we not be as much disappointed as we were when, upon procuring pure water by distillation, and thus deprived of all foreign ingredients whatever, the discovery was made of its unfitness to nourish animal beings. Poetry may describe a land equally protected from rude Boreas' blast, or Auster's sultry breath, and over which the zephyrs sport, while the earth is redolent of sweets and balmy odors, and clothed with vegetation of every hue; but it is not in such a land that the body would attain its greatest vigor, or the mind display its highest and most diversified energies. The hardy and bold men of the North, who overran and subjugated the Roman Empire, were nursed in storms, and exposed to constantly recurring vicissitudes of weather. When lulled to repose, it was by the moan of the chilling blast through their vast and gloomy forests.

Climatology includes not only a study of the climates of regions and countries, and a comparison of the climate of one with that of another, but also of limited districts and spots, between two of which, even at a short distance from each other, there are not unfrequently strong climatic differences, depending on their relative proximity to mountains, maritime exposure, the nature of the soil, &c. Thus, for example, the southern and southwestern coasts of England enjoy a far milder winter climate than the midland and northern counties of that country; and in this maritime belt there are spots still more favored than the rest, and which may be assimilated to some of the chosen retreats for invalids in the south of France and Italy. Of these favored local climates, that of Penzance, on the south coast of Cornwall, claims the preference; but for reasons which illustrate the necessity, in the study of climatology, of attending to the medium temperature of the different seasons rather than that of the whole year, and of the night as well as of the day. "The mean annual temperature of Penzance is 52·16°, being only 1·77° above that of London. But the temperature is very differently distributed over the year at the two places. Although Penzance is only a degree and a half warmer than London for the whole year, it is 5½° warmer in winter, 2° colder in summer, scarcely 1° warmer in the spring, and only 2½° warmer in the autumn."* The greater part of the difference of temperature in winter between these two places is in the night, during which Penzance, on an average, is six degrees and a half warmer than London, and during the day it is only a little more than three degrees warmer. The equal distribution of heat throughout the year shows, by comparison with the south of Europe, the climate of Penzance to still greater advantage; and in this respect Madeira and the Azores are, of the climates examined by Sir James Clark, the only ones superior to Penzance in this particular. The daily range at the latter place is little more than half that of the south of Europe.

Carrying out the study of the climate of Penzance in other seasons, we find that it loses its superiority in the spring. "In April and May it appears decidedly inferior to the more sheltered spots on the south coast of Devon, and to Undercliff (Isle of Wight), and very much so to the southwest of France. For instance, at Pau, the mean temperature during the winter is nearly 3° below that of Penzance, while during the spring it is 5° above it." Among the drawbacks to Penzance as a winter residence, are the humidity of the atmosphere, there falling in it about twice as much rain as at London, and its liability, in common with the whole southwestern extremity of the island, to violent and frequent gales of wind. One of the effects of these latter is an elevation of temperature, most evident during the night; so that the difference in this respect between the day and night is very slight. During these *moist siroccos,* which are so prevalent in winter, the inhabitants may be said to breathe the breezes of a climate milder than their own. When the south and southwest winds are very gentle, and the days are clear, the warmth and softness of the air are delightful. The relatively greater coldness of Penzance during the spring months is owing to its exposure to north and east winds. Sir James Clark judiciously remarks on this occasion: "The circumstance of exposure to or shelter from cold winds, constitutes the principal cause of the difference of different places, in the same line of climate, in point of warmth, as experienced by man; for the influence of temperature on the living body is indicated much more accurately by our sensations than by the thermometer. Unless, therefore, the indications of the thermometer are corrected by observing the winds, we shall form very erroneous ideas of the climate of many places."*

---

* Clark on the Sanative Influence of Climate.

Pau, just now mentioned, furnishes another example of a local climate distinguished by striking peculiarities, that do not belong to that of the country of which it forms a part, nor even to the section to which it more evidently belongs. A mere knowledge of the temperature of this place would help us but little towards an estimate of its fitness for the residence of invalids. The modifications according to the season, and the daily range of temperature, are important considerations; but even these would not furnish the necessary data, which must be completed by a notice of its hygrometric condition and the prevalence of particular winds. In this last respect Pau is in strong contrast with Penzance, in its freedom from high winds, and in the general calmness of the air, which is a striking feature in its climate. "The mean annual temperature of Pau," as we learn from Sir James Clark, "is 4½° higher than that of London, and about 3° higher than Penzance; it is about 5° lower than that of Marseilles, Nice, and Rome, and 10° lower than that of Madeira. In *winter* it is 2° warmer than London, 3° colder than Penzance, only 2½° colder than Marseilles and Rome, and 7° colder than Madeira. The range of temperature between the warmest and coldest months at Pau is 32°; this, at London, and likewise at Rome, is 26°; at Penzance it is only 18°, and at Madeira 14°. The daily range of temperature at Pau is 7½°; at Penzance it is 6½°; at Nice 8½°; at Rome 11°."

Pau, formerly the capital of the province of Bearn, and the birthplace of Henry IV of France, is now the chief town in the department of the Lower Pyrenees. It is situated in about 43° 20′ north latitude, and nearly in the same line with Montpellier, Marseilles, and Nice, all of which are between the 43d and 44th parallels, and consequently a degree north of Boston; but what a difference between the climate of this last and that of the French towns! The isothermal line of 60° F. passes through Pau, and, on our coast, through Norfolk, and, in the Pacific region, Sacramento; while the isothermal line of 40° would pass through Boston on this continent, and London and Amsterdam on the other. Pau is about 150 miles from Bordeaux, and 50 from Bayonne, on a terrace formed by a ridge of gravelly hills, overlooking an extensive valley to the north. The Pyrenees rise gradually behind it, their higher range being nearly forty miles distant, and exhibiting clearly some of their lofty peaks, such as the *Pic du Midi de Bigorre*, the *Pic de Ger*, and *Pic du Midi d'Ossan*, the glaciers and the mountains which inclose the thermal springs of *Eaux Bonnes* and *Eaux Chaudes.*

---

* Clark, *op. cit.*

It may seem paradoxical to those unaccustomed to investigate the subject, when it is said that the air of Pau is dry, although the quantity of rain which falls there is greater than in London, the proportion being as 40 to 42 inches in the former to 30 inches in the latter. The number of rainy days is less, however, in the French town than the English capital, being as 109 to 178. The rain falls in a greater body at one time, and usually a little before or a little after sunset at Pau, and seldom more than two days at a time. Owing to the absorbent nature of the soil, and the declivity of surface by which the rain not thus disposed of flows off, there are few days, as we learn from Dr. Taylor, in which a person in good health cannot pass two or three hours in the open air, and in which even invalids, provided they are warmly clad, may not take some exercise, towards the middle of the day. The westerly wind, which is the bearer of rain, does not bring cold with it; and it is a matter of general observation, that what is called bad, that is, wet weather, calms the cough resulting from tubercles, or acute irritation of the bronchiæ, diminishes the frequency of the pulse, and causes a general feeling of better health. The most genial wind is from the southwest, which is attended with the good effects of that from the west, but it is without rain. The north wind blows with but little force, and is not frequent; and the oppressive southerly winds are of rare occurrence, seldom continuing beyond twenty-four hours. While thus exempt, in a great measure, from these last-mentioned winds, on the one hand, it is equally so from the cold northeast winds on the other,—both of which prevail over this part of France generally. The north winds in the winter at Pau are spoken of as warm rather than cold ones; for it must be borne in mind that this place is to the north of the Pyrenees. In fine, so protected is Pau from winds, that it is not easy for the inhabitants to tell from what direction they blow; and hence, owing to the absence of any great perturbation of the atmosphere, its numerous variations are inoffensive to the invalid.

The mean temperature of the day, from observations made at 9 A. M., 1 P. M., and 5 P. M., or during the period of the twenty-four hours when invalids may be supposed to take exercise in the open air, is for the autumn 62·2° F., for the winter 46·2° F., and for the spring 57·7° F. It was observed, says Dr. Taylor, that during the winters of 1838–9, and of 1840–1, those laboring under affections of the chest could without danger expose themselves to the open air in the months of November, December, and January.

The characteristic quality of the climate of Pau is the comparative mildness of the spring, and its exemption from cold winds. It seems to exert a decidedly sedative effect on the natives, in its causing a predominance of the phlegmatic temperament, and a relatively slow circulation and also slowness of thought and of movement. On strangers a similar operation is manifested, in a diminution of nervous irritability and reduction of the activity of the circulation, and also in a desire for rest and enjoyment at the present, without any anxiety for the future. These feelings result from a removal of organic irritation, one sign of which is a more equable, soft, and slow pulse. Hence we find claimed for the climate of Pau a tranquillizing effect on those of a sanguineo-nervous temperament with its often resulting convulsive disorders, while it exerts a directly sanative influence on chronic inflammation of an organ, a state implying both previous sanguineous and nervous irritation. It prevents, also, Dr. Taylor alleges, the formation of tuberculous matters, and arrests, in a measure, their growth to maturity. Dr. Clark, on the authority of Dr. Playfair, who resided several years at Pau, says, that the mildness of the spring, and its little liability to winds, render this place favorable to chronic affections of the larynx, trachea, and bronchiæ. Dr. Playfair found it beneficial in gastric dyspepsia, and he has seen it useful in a few cases of asthma. The climate agrees well with delicate children, who often acquire good health and greatly improved strength and vivacity, especially if they are removed to the mountains during the summer. Upon the whole, Pau appears to Sir James Clark to be the most desirable winter residence in the southwest of France for invalids laboring under chronic affections of the mucous membranes. Dr. Taylor, however, with all his admiration and eulogy of the place, points out morbid conditions in which the climate would be injurious. These are, all diseases in which there is nervous congestion and diminished energy of the nervous system,—in atonic dyspepsia and the train of symptoms which accompany it; constitutions enfeebled by long residence in hot climates, and in which the functions of the liver are weakened to the last degree; the catarrhs and chronic bronchitis of old persons, marked by diminished tone of the organs and excessive expectoration; chronic rheumatism, with debility of the digestive organs, and complicated with atonic gout; predisposition to apoplexy, owing to passive congestion of the chief organs in a leuco-phlegmatic temperament; and chlorosis with an atonic state of the functions and congestion of the uterus.

We have been led into some details in speaking of the climate of Pau, from its being less known than other favorite spots in the south of France and in Italy, over some of which it would seem to have decided advantages for the invalid. The scenery around is varied and romantic in its features. There is also another recommendation of Pau as a winter residence, viz., its being in the neighborhood of the numerous active and celebrated mineral and thermal springs of the Pyrenees, which the invalid can readily visit during the months of June, July, and August, and thus continue, by their use, under judicious selections and advice, the sanative course begun at Pau during the nine preceding months, or from the first of September to the first of June.

Desirous that our countrymen—traveller sand invalids—should look in this direction for health, we ought to add that the time spent in seeking it while inhaling the sanative air of Pau, need not hang heavy on their hands when they are there. The town contains about 14,000 inhabitants, and is surrounded by a country which invites to excursions in different quarters. The promenades in the environs are very fine—some of them along the rapid river Gave, which passes by the town, others on a smaller stream; and even in the town itself, there is a platform or terrace, well shaded, and commanding a beautiful view. But, of all, the "Park" is the principal promenade. It consists of a terrace, a quarter of a mile in length, overlooking and parallel to the river, and thickly planted with trees. Ladies can always enjoy their walk here, provided there have been three hours sunshine after even thirty-six hours of rain. It is intersected by walks; some straight, some winding in all directions, as if to gratify the various tastes of strangers of every country. The town itself boasts of its *château* or castle, the construction of which dates from the thirteenth century. It is held in great veneration by the Bearnois, on account of Henry IV having been born there. A three minutes' walk brings the visitor to a small two-story house, in which Bernadotte, one of Napoleon's marshals, and afterwards king of Sweden, was born. Pau has also a public library, containing 15,000 volumes on all subjects. It is open the greater part of the day, and every facility is given to readers to consult the books on its shelves. There is also a college, erst royal, now imperial. Boys may be placed here as boarders, if it is desired, and proper attention is promised to be given to their health. Nor are the means for private instruction wanting. In a commendable spirit of toleration, although the institution is of course Catholic, no interference is attempted with the religious tenets of the pupils. A Protestant minister visits the college regularly, and examines the youth of this persuasion, who are also taken every Sunday to church. A commodious edifice has been built by the English residents and visitors for those belonging to the English Episcopal Church, in which service is performed every Sunday, twice in English and twice in French. Among the places of amusement may be mentioned a large hippodrome, which is a good deal frequented. During the winter *soirées* are frequent, and at them one meets with very agreeable company.

Exercise is taken on foot, horseback, and carriage; advantages not enjoyed fully in large towns, the wearisome suburbs of which have to be traversed before one can reach the open country. Five different routes diverge from Pau, exhibiting great variety of prospect of mountain and plain. The equestrian can take a wider range still, and skirt the hillsides and penetrate the forest glades.*

Our first reference to Pau in connection with climatology having been followed, without any prior intention, in this stage of review, by a somewhat methodical description of that town, as a winter residence for invalids, we may as well complete our notice of Dr. Taylor's work by a very curt reference to the contents of the chapters which follow. Of these are a comparison of the climates of Montpellier, Hyères, Nice, Rome, Florence, Pisa, Naples, the Baths of Lucca and Sorrento, with Pau, into which we shall not enter, but reserve to ourselves the privilege, if room is left us, of making some remarks on the sanative reputation of these places as we advance. Reflections on the climate of the earth in olden time, the upheaval and physical appearances of the Pyrenees, and descriptions of strata, the flux of the springs and the intermediate valleys and mountains, and the natural history of the Pyrenees, make up the remainder of the first part of the work. The concluding part and half, on the Pyrenean Thermal and Mineral Springs, will not engage our attention at this time. The theme is fruitful; but its treatment would lead us away from our present subject, the various bearings and details of which require a careful scrutiny.

The complex problems of the true climatic character of the different places recommended as desirable abodes or stopping-places for those suffering under chronic diseases, and especially phthisis, having been stated, we are now better prepared to hear certain fallacies exposed and illusions dispelled respecting their alleged efficacy in this way. Much has been done in different quarters in aiding such an exposure. One of the most comprehensive and direct arguments, and which is sustained by the introduction of a large body of facts and observations on the twofold theme of the effects of sea-voyages and warm climates in pulmonary phthisis, is that furnished in the Memoir of M. Rochard, which is the first of the works whose titles head the present article.

---

* As there are few travellers who have not some curiosity about the rates of living abroad, we subjoin a few particulars on this head, which we find in Dr. Taylor's volume. Some of the *palais* of the old families, who have become extinct, and many other mansions, both in the town and its environs, contain numerous *apartments*, or suites of rooms, ready furnished, which can be procured at prices ranging from five hundred to seven hundred dollars, for eight or nine months. Others again are rented at from two hundred and fifty to five hundred dollars. Some of these suites are spacious enough for the accommodation of twelve to fifteen persons, and all those of the first category have room for from six to eight persons. Plate and house linen are procurable by hire in the town. At the hotels, either a suite of rooms or a single room can be had; or travellers may lodge in a private house and eat at the hotel. They who prefer to keep house can obtain a good cook at three or four dollars a month,—less than we pay in our own country for a bad one,—and a servant man for six or seven dollars a month. Carriages are let at the rate of forty cents an hour, and saddle-horses for half a dollar a day.

The author first adverts to the very ancient belief in the efficacy of sea-voyages in pulmonary consumption,—a belief echoed in the last century by Boerhaave, Cullen, Fothergill, Gilchrist, and others; and he then suggests a plausible explanation of its continuance for so long a period, viz., in the imperfect diagnosis of diseases of the chest, so that chronic catarrh and bronchitis were confounded with phthisis, and cures of the former were regarded as cures of the latter. Laennec had great confidence in the sanative powers of sea air. Knowing the tuberculous state of his own lungs, he abandoned Paris and practice, and went to his native Brittany, where he died on the borders of the ocean. M. Rochard collected 165 observations of cases of phthisis showing itself at sea among ships' crews. Of these, 103 died on board, and 62 were sent home to France, or left in the hospitals of the colonies. As to the alleged infrequency of phthisis on the coasts of Brittany, which, it must be remembered, are exposed to the western winds from the Atlantic, and so far are in the enjoyment of sea air of the best kind, the author gives us a part of the vital statistics of the seaport of Brest. In the year 1853 there were 1519 deaths in that city, 245 of which were due to phthisis. The population is 63,000 inhabitants, including the military and maritime forces, and sailors belonging to the commercial marine, so that there was one death from consumption for 257, or 3·89 in 1000 inhabitants,—almost as great a proportion as in England.

An extended series of inquiries, put into a tabular shape, show that, of the deaths in the French army, amounting to 17,209, from 1820 to 1826, 1260 were from phthisis, giving a proportion of 1 to 13·6. Similar investigations, made with great care by M. Rochard, of men sailing from and arriving at Brest, show the mortality from phthisis, compared with the whole number of deaths, as 1 to 3·86,—a terrible commentary on the alleged sanative effects of sea air and sea-voyages in consumption. Similar estimates made of deaths in the Toulon public and commercial marine, exhibit analogous results to those just given of Brest, notwithstanding the situation of the former city in the Mediterranean, and its exposure to the southerly winds blowing from that sea,—circumstances supposed to be so beneficial to those with weak chests, and which would operate favorably on the sailors during their stay in port. Exemption from phthisis was claimed in favor of Cherbourg, which, like Brest, is on the Atlantic coast of France; but, as M. Rochard shows, without cause, either as regards the resident inhabitants or the maritime part of the population.

The author, anticipating an objection that might be raised against the above conclusions, on the ground that the great mortality among sailors from phthisis is due to exposures during their stay in port, shows that so far from this being the case, pulmonary tuberculization makes more rapid progress at sea than on land, and that death among the consumptive at sea is quite a common event. Summing up the number of deaths at the different French naval stations, viz., the West Indies; South Seas, Oceanica and New Zealand; India and China; Brazil and La Plata; and the Western Coast of Africa, which amounted to 691, in a force collectively of 82 vessels and 16,612 men, M. Rochard found that the deaths from consumption were 91, or 1 in 7·59 of other diseases, being nearly double that which occurred in the army. Taking the effective of all on board ship, it would seem that one consumptive sailor dies out of every 364, or 2·7 in 1000 on duty in a year; while in the army the proportion is as 1 to 578, or 1·7 in 1000. The reader should be informed that the French sailors of the national marine are, in some measure, a chosen class, as the men who labor under any special disease or infirmity are not enrolled. To a certain extent this remark is applicable to the English maritime force.

The author gives a statistical summary of the results which occurred in the different commands of the English navy (without specification of period) as he found them in the *Gazette Medicale*, 1841. We prefer turning to the "Blue Books" * themselves, in which we find the following figures, culled from the tables in the reports made up by Dr. Wilson. We must premise that the mortality in England from all diseases of the respiratory organs, in 1838, was 7·60 per thousand of the entire population, and from phthisis, 3·93 per thousand. In London, the deaths from the class of diseases first mentioned was 7·83 in 1000, and in the second, or from phthisis, was 4·14 in 1000. The deaths from phthisis in London were 234 in a 1000, or a little more than 23 per cent., or 1 in 4·2 deaths from other diseases. In the South American command or squadron, the mean effective strength of which, for seven years, was 2600 annually, the cases of phthisis or "consumptive diseases of the lungs" were 55, or 3·2 per 1000 of effective mean strength, and the deaths from phthisis 25 in the septennial period, or 1·5 per 1000 annually. The whole number of deaths from other diseases was 134, which would give to phthisis 18·6 per cent., or 1 to 5·36 from other diseases. In the West Indian and North American squadron, with an average effective force of 4907, the cases of phthisis were 114 or 4·8, and the deaths 44 or 1·9 annual ratio per 1000 of effective force. The deaths from this disease were to those from other diseases in the proportion of 10 per cent., or 1 to 9·7. In the Mediterranean and Peninsular command, the effective force of which was, on an average, for seven years 7958, the cases of phthisis numbered 285, and the deaths 106; the annual ratios per 1000 were 5·1 and 1·9, and the proportion of deaths in phthisis to those from other diseases amounting to 516, was 20·5 per cent., or 1 in 4·86, which approaches nearly to that of London. In the Home and Various Force, the vessels of which sail on the coasts of Great Britain and Ireland, the British Channel, North Sea, and St. George's Channel, and in the Atlantic Ocean to the limits of other commands, the cases of consumption, in an average effective force of 5391, were 156, or 1·6 per 1000 per annum, and the entire number of deaths from all diseases 359, of which phthisis numbered 60, being in the proportion of one of the latter to six of the former, and 1·58 in 1000 of effective force, which exhibits a more favorable proportion than in the Mediterranean.

---

* Statistical Reports of the Health of the Navy for the years 1830, 1831, 1832, 1833, 1834, 1835, and 1836, in two Parts. Part I. South American, West Indian and North American, Mediterranean and Peninsular Commands, 1840. Part II. Cape of Good Hope, and West Coast of Africa, and East Indian Command, Home and Various Forces, 1840 and 1841.

In a table of totals throughout the service for seven years, in the three commands as above, not including the Home and Various Service, we find deaths from inflammation of the lungs set down as 1 per 1000 of effective force; from phthisis 1·6, to the same number, making 2·6 for diseases of the respiratory organs per 1000 of effective force, and giving a ratio which comes next to that of fevers. The deaths from these were 3·7 in a 1000. Consumption, counting 1·6, comes next to fevers in the proportion of deaths to the effective force. The ratio of cases is, in all the commands, 4·2. In that of the Mediterranean it was as high as 5·1. Contrary to *a priori* reasoning on the subject of marine climatic influences, we found that although the entire mortality from phthisis in the crews of the different vessels at sea falls short of that in all classes on land, yet that it is less in the northern and inclement latitudes of the North Sea and British and St. George's Channel and on coast service than it is in the Mediterranean, the climate of which was so long thought to be congenial to those with weak or diseased lungs. In the Home and Various Force, we see the mortality from consumption to be 1·6 per 1000, while in the squadron of the Mediterranean and cruising round the Peninsula (Spain and Portugal) it is 1·9 per 1000. "Inflammation of the lungs and of their membranes, and especially the interior lining the air-passages, is rather a prevalent form of diseased action in the Mediterranean, for which the nature of the climate, in regard to temperature particularly, sufficiently accounts. It is, as has been stated, very variable, the changes on the north coast being sudden, and often violent. When the wind shifts from north to south, and *vice versa*, a fall or rise of twenty degrees in the thermometer will sometimes take place in a few hours." Rep., Part I, p. 192. And again at p. 227, in speaking of the three "commands:" "But while these affections of the alimentary organs were less frequent and fatal than in the other two commands, organic diseases of the pulmonic apparatus were much more frequent than in either, and, including primary inflammation, more fatal, especially when compared with South America." Contrary to the vulgar notion, that sailors do not take cold, we learn that, even in what used to be regarded as the favored climate of the Mediterranean, seafaring men are peculiarly liable to catarrhal affections, and to "primary inflammation of the pulmonic tissues, embracing pneumonitis, pleuritis, and bronchitis." Rep., Part II, p. 215.

The author of the reports, Dr. Wilson, thinks that they "establish the important fact, that sea life has a sanatory influence on non-inflammatory affections of the lungs, at least on the most destructive one of them, the phthisical. The influence is chiefly preventive, but would appear to be also in no small degree curative." A qualifying remark, however, soon follows, not calculated to make us place much confidence in sea life as a remedy for consumption. "The amount of curative agency cannot be determined; but it is feared that it cannot be considered much." This is the conclusion to which we are afraid we must arrive, when we reflect on the fact, that the liability to attacks of inflammations of the lungs and their membranes in seafaring men, subjects those predisposed to phthisis to a development and aggravation of this disease when it is present. We all know the bad effects of either preceding or intercurrent inflammation of the lung in the phthisical. In the year 1833, consumption was the most fatal disease in the Mediterranean squadron, not even excepting malignant cholera, which prevailed in some of the vessels. The same remark may be made of the same force in 1832; and if we include all the diseases of the lungs under one head, they will be found to make up more than one-half of the entire mortality.

The above results correspond with those announced by Dr. Sinclair twenty-seven years before, in his Inaugural Thesis, published at Edinburgh, 1817. He gives the hospital returns, in 1810, 1811, and 1812, of the diseases of the seamen on board the British fleet, numbering about thirty thousand men. During the above period, there were admitted into the hospitals at Malta, Gibraltar, and Minorca, 2113 patients, of whom 596 were laboring under phthisis pulmonalis and pneumonia, so that the rate of pulmonic to other diseases was as 1 to 2·5. The rate of mortality in the two was, however, very different. Out of 455 cases of phthisis alone, 151 died before the remainder could be shipped off for England, where, in all probability, most of them perished. Whereas, out of 1242 cases of fever, only 58 died, and a very small number were invalided. The preceding figures would indicate a proportion of cases of phthisis to the effective force of 30,000 men, as 5 to a thousand in a year, and the deaths in the hospitals, without adverting to the fate of those sent home, as 1·6 to 1000 of effective force per annum. This mortality hardly bears out Dr. Wilson's belief, which he indicates in the form of a question, that the deaths from this disease are not so numerous as they used to be in the crews of public ships. But if we take the entire number of deaths in the hospitals and of those sent home, it cannot have been far short of the number of cases, or 5 per 1000 effective force. The reader must also be apprised of the deteriorating influences at work on sailors in the years above mentioned, in the way of continued confinement to their vessels, and subjection to all the injurious effects of bad quarters in old vessels, and of a want of change of food,—it being a time of war. Causes of this nature are still, but in less degree, operative on seamen at the present time, who are also, of necessity, exposed to the chilling and damp air of the night in their watches on deck, as well as to great transitions, by leaving their close-confined quarters between decks, and coming up into the open air. But, on the other hand, the large compensation which they enjoy from their spending so much of their time in this free and pure air, and the, in general, regularity of life at sea, added to the greater average strength and vigor incident to their ages, and kept up, for the most part, by abundant alimentation, give them decided advantages over the population at home and on land, which furnishes the largest number of cases of phthisis.

So far as we can deduce conclusions from official reports of the vital statistics of the British navy, they would seem to indicate a difference in favor of maritime life over that on shore, as regards the number of cases of phthisis and the deaths from this disease. The proportion of deaths from phthisis to those from all other diseases is, however, greater at sea than on land, if we except the South American command. It is this fact which seems to have led M. Rochard to the inference, that there were actually a greater proportionate number of cases of phthisis and resulting mortality on board ship than on land.

A comparison between the military and maritime forces is in favor of the latter. Thus we learn, from official returns contained in the Parliamentary Blue Books, that the cases of consumption among the British troops in garrison, on an average of twenty years, were 6 per annum in every 1000 men. In the Ionian Islands, the proportion is 5 in 1000, which is slightly less than that among sailors in the Mediterranean. In an aggregate strength of 86,661 British soldiers, during a period of nineteen years on the Windward and Leeward Islands, the deaths were 6803, of which 906, or 1 in 7·5 were from pulmonary diseases, and 580, or 1 in 12, from pulmonary consumption. The deaths from this disease, in the military hospital at Jamaica, was 6·1 in 1000 of the mean strength. In London the deaths were 4·14 in 1000 of the inhabitants.

A fact stated by Dr. Wilson, in the Report, Part I, p. 192, is adverse both to the sanative effects of sea-voyages and of warm climates: "It is ascertained, though the fact is opposed to many preconceived opinions, that bronchitis, which originates in the Mediterranean, and which often runs rapidly to a fatal termination there, may be arrested by moving the subject to England. A similar remark was made respecting the disease in South America." Dr. Sinclair had previously placed in contrast the effects of a winter in the Mediterranean and one passed far north, to the credit of the latter. In the severe winter of 1814, the Colossus ship-of-the-line, of which he was then surgeon, remained the greater part of the season in the river Scheldt, inclosed in the ice. During this time, Fahrenheit's thermometer continued much below the freezing-point for several weeks, as low even as 18°, and yet on this occasion the number of men attacked with catarrh and pneumonia was seldom so great as he had witnessed during the preceding summer and autumn, in the Mediterranean, among a crew of only half the number (three hundred).

Officers of the marines, who, on board their ships, are placed in the same situation as passengers would be, and who are not exposed to rain and storms as the sailors are, pay, M. Rochford assures us, the same tax with these latter, in a certain number of them being carried off by consumption. From all that precedes, one conclusion of considerable moment may be drawn, viz., that young persons with delicate chests and predisposed to pulmonary tuberculization, ought to be advised against going to sea. Hitherto, the advice has been given the other way.

Is sea air favorable to the consumptive? As relates to living entirely at sea and breathing a sea air, the question has been already answered. We have now to speak of residence on land with a maritime exposure, and breathing to a certain extent a sea air. By many this is thought to be beneficial. What will they say when told that a sea air is breathed by the people who inhabit the maritime districts of Great Britain and Ireland, and of Holland and Germany, and the Atlantic seaboard of the United States, in all of which regions consumption prevails to a great extent? The general proposition is then qualified with a condition that the maritime exposure be to the south or the south and west; but even this qualification will not meet the case of the maritime belts of Holland and North Germany. As we have in part learned already, and shall show more fully hereafter, the desired exposure, in all its amplitude, will not secure a sanative resting-place for the consumptive.

Some stress has been laid on sea sickness as a cause explanatory of the good effects of sea-voyages in phthisis; but the cause is too ephemeral, and what is more to the point, its good effects are yet to be proved. A change in the manner of life is also regarded as exerting a hygienic agency of some power, in substituting sea for land travel. There can be no question but that the change of scene, great at first, and which, afterwards, must count for something, regularity of meals and in the hours of sleep and waking, all passionate excitements withheld, and yet still room given for intellectual exercise without intense occupation—benefits similar to those procured by visits to mineral springs, sea bathing, and country life—must be productive of beneficial results. During a long voyage, such as to the East Indies or to China, or round Cape Horn into the Pacific, time would be allowed for salutary effects of this nature, which are quite out of the question in our common transatlantic passages, especially in steamers.

Emigration to Warm Climates heads a chapter in M. Rochard's memoir. Incidentally, we have already touched on some parts of this inquiry, when speaking of sea life in the Mediterranean and in the West Indies, and of the effects of the climate of these regions on soldiers, as relates to a tendency to consumption. The author, in reference to the effects of migrating from a warm to a cool or cold climate, reminds us, that the negroes of Sennaar become tuberculous in Egypt, as noticed by Clot Bey. In the islands of Ceylon, Bourbon, and the Mauritius, phthisis commits great ravages among the negroes from the western coast of Africa, as it also did among the soldiers of the black regiment in Gibraltar. Further north the race suffers still more from this disease. But the change which more directly concerns us is the migration or movement from cold or temperate, to warm or hot climates. We have seen the great frequency of catarrh and bronchitis in the Mediterranean, to which region it is still the fashion to send persons suffering from these diseases in their chronic state, and from phthisis itself. Changes of temperature and wind in southern latitudes exert a very prompt and sinister operation, especially in those from the North, who are affected at once with catarrh and bronchitis, or with intestinal irritation and flux, according to the season and their predisposition.

Tuberculization makes the greatest progress in hot climates, without the impulsion, as it were, given to it in our northern climates by catarrhal irritation or by bronchitis, pleurisy, and pneumonia, each of which may, and often does, serve in its turn to accelerate the progress of the consumptive to the tomb. M. Rochard cites the opinion, based on experimental observations of French physicians and surgeons, in proof of the accelerated course of pulmonary tuberculization in the French West India islands of Guadaloupe and Martinique, in Cayenne and Senegal, and in Hindostan and the islands of the Southern Pacific. Not only do the physicians in the French colonies protest against the phthisical being sent there, but they recommend strenuously the departure of those among them who are affected with phthisis, to return to Europe. As relates to the army, both French and English statistics agree in showing the fearful ravages committed by phthisis pulmonalis among the troops of both countries in tropical and warm latitudes, exceeding in this respect the mortality from this disease at home. In the Tulloch's English Army Reports, speaking of the West Indies, we read the following: "As an instance how much more prevalent consumption is in that country than in Britain, we may state, that of an aggregate strength of 57,567 serving in Jamaica, there have been 661 treated for that disease, being at the rate of 13 per thousand annually; while out of an aggregate strength of 44,611 dragoon-guards and dragoons, serving in the United Kingdom, there have been treated only 286, or between 5 and 6 per thousand annually,—and that, too, though the period over which the latter observations extend includes two severe epidemics of influenza, which no doubt laid the foundation of more cases of this disease than usually occur in this country." (See also *anté*, p. 817.)

These morbid peculiarities are not confined to the military. Chisholm had, many years ago, pointed out the fact of the frequent occurrence and rapid march of the disease (galloping consumption) in Granada. Cornuel gave similar testimony for Guadaloupe, and Rufz for Martinique. There are deterioration and anemia of the organism in the phthisical in hot climates. They do not digest well, nor make good blood to resist tuberculization, and bear them up against its depressing and enfeebling operation. Brazil, so lauded for its balmy air, pays its full tribute to consumption, both at Rio Janeiro and in the provinces, as we learn from M. Sigaud; and another writer in the *Gazette Médicale* states that the number of consumptive patients in the hospital of that city is nearly as great as in Paris. One of the professors of the University in Rio expressed his belief that a sixth part of the mortality among the poorer classes in the Brazils was due to phthisis.

M. Rochard next passes in review the division of the warm climates to the north of the tropical zone. It includes a region between the tropic of Cancer on the south, and the isothermal line of 15° C., equal to 59° F., on the chart of M. Boudien, on the north, and which corresponds with the forty-fifth degree of north latitude in the old world, and the forty-first in America. It includes Spain, the south of France, Italy, Greece, and the basin of the Mediterranean, Madeira, the Canaries, the kingdom of Morocco, Algeria, the regencies of Tunis and Tripoli, Egypt, the north of Arabia, Syria, and Turkey in Asia. In America it includes the Southern States of our Union, Mexico, and California. An immense space this from which to select abodes for the sick, and especially those with weak lungs; and we might suppose that there could be no difficulty in finding many spots favored by a bountiful nature, if not always embellished by art. Were we to judge from the literature of the subject, there would seem to be numerous guides to point the way, and to tell the very degree of temperature and hygrometricity, the precise extent of perflation, and the kind and amount of electricity required by the invalid, to be found at the spot chosen in the exercise of their ingenuity, or the display of their learning. There are, however, writers on the subject who have brought to its investigation personal experience and considerable observation, and whose inquiries have been aided by liberal-minded physicians of the place described. The summing up, unfortunately, after putting aside all that is foreign and collateral, and not sustained by very close analogy, includes little that is clearly positive and mandatory, or deducible from direct indisputable evidence. But the ground has been gone over at different times, and it will be again; and it is not for us, who profess to sweep the horizon with a critical eye, to turn away in discouragement or despair.

The works, the titles of which head this article, now come before us with a common purpose, and their authors use, very often, the same materials; for even Dr. Taylor, while professedly treating of the climate of Pau, engages in a critical comparison of the hygienic value of this place, with that of other noted health-praised resorts. M. Carrière, under the title of the Climate of Italy, introduces many observations on comparative climatology. In fact, while we find in his work continual evidences of an observing and a thoughtful mind, we could spare some of the disquisitional portion of its pages, without any diminution of its utility. Mr. Lee's Essay is a well-written summary of the etiology of pulmonary tuberculosis, and of the influence of climate in retarding and ameliorating this disease, followed by an appendix, which contains a *Notice of some of the Places most frequented on account of their Climates in the South of France, Italy, &c.* To say that this essay contains nothing new, or that it might be illustrated by some additional facts in pathology and animal chemistry, would imply a minute criticism, applicable to almost any of the prize essays of the day. A more just, and to us more pleasant way of looking at it, is as a work to which reference may be instructively made by readers who have not studied the subject, or who have given it but a cursory notice. The author begins with "*Preliminary Remarks*" on the curability of consumption, and gives proofs derived from numerous *post mortem* examinations of aged persons, to which he might have added the entire restoration to health of invalids, who, as ascertained by careful physical and physiological diagnosis, had undoubtedly labored under confirmed phthisis. Faith in such a result leads physicians in Great Britain and the United States to reach it by pharmaceutical means, to the neglect, if not exclusion, of those hygienic agencies, steadily and perseveringly applied, which might alter the intimate condition of the organism, and change, as the phrase is, the constitution, so that a permanent cure might be obtained instead of temporary palliation. It is well remarked by M. Baumes, as quoted by Mr. Lee, that "to occupy one's self in treating merely the manifestations of a diathesis, is generally as if one were to run after the shadow, and leave the substance, which it is desirable to obtain." A difficulty, however, presents, in not knowing very accurately when the curative treatment should be begun, owing to a want of correct diagnosis in the early period of tuberculosis; for, although there are very precise directions and rules to be pursued in these cases, they are not of easy adoption without some natural tact, and continued trials and experience; and even if we suppose all the desired attainments on the part of the physician, the attention of the invalid is often not awakened to his own condition by any positive pain or distressing symptom, until the disease has made some progress. A stage is at length reached when no doubt remains, and when art has tried all its resources in vain. The patient tired and the physician tired, travel is suggested; and the prospect is held out by sanguine friends, perhaps by the medical attendant, of marked amendment, if not restoration to health. Buoyed up by hope, the invalid revives as his itineracy is laid down; and he sets out almost rejoicing, and counts the time when he is to return home in the plenitude of health. He reaches the abode of Hygeia, and sometimes revives for a season; but he is too easily content with this first instalment, as it were, of a larger stock of health in reserve when he reaches his native land. He then hastens back, sometimes with such impatience and prematureness, as to cause him to lose, by the keen winds and vicissitudes of spring, all that he had gained during his winter residence abroad. Others again, and they are unhappily too numerous, leave home when it is too late: the disease is in its second, if not third stage, and they go to a foreign land—to die. It is necessary for us to bear these things in mind, if we would have our patients derive any substantial benefit from travel and change of climate; and also if we would appreciate at their true worth the sometimes contradictory and conflicting statements of the sanative effects of certain spots, which are differently regarded according to the stage of the disease from which the experience is derived.

Dr. Lee's second section is "*On the Nature of Pulmonary Tuberculization.*" He speaks of, without adopting unreservedly, the opinion of several distinguished pathologists, who have considered tubercle to be a product of inflammatory action. Among these he mentions Broussais, Bouillaud of Paris, Addison of London, Reinhardt of Berlin, and Van der Kolke of Utrecht. On the adverse side we find the names of Laennec, Bayle, and Louis. The more correct is the modified view taken by Carswell, Andral, Fourcault, and Clark, who, while they deny that tubercle is a product of inflammation, believe that this process, or even an irritation, may by attracting the morbid deposit and developing tuberculosis, so far prove a determining cause. The prevailing, and, we must needs think, the correct opinion at the present time, is to regard tuberculization as a disease depending on an alteration of the blood from its normal condition. It is easier, however, to believe in this morbid change than to show distinctly in what it consists. The experiments of MM. Andral and Gavarret are valuable contributions to this end. A point of great importance, inasmuch as it suggests timely preventive means, is the undeniable fact, that the morbid state of the blood which causes tuberculous cachexy, may exist for a long time before the formation of tubercle itself in the lungs. The more immediate cause of the vitiated state of the blood is to be found, the author thinks, in the inactivity of the capillary circulation of the skin, and the consequent impediment to the regular and free discharge of insensible perspiration, and to the elimination from this surface of effete matters from the general system, and particularly from the blood. Nearly, if not quite of equal importance, is the regularity of its function, as auxiliary to the lungs in respiration, by the evolution of carbonic acid, and, to a certain extent, the absorption of oxygen from the atmosphere. In this the skin, according to its healthy or morbid state, will materially aid or materially injure the lungs, not only in their healthy, but also their morbid condition. Experiments by Ingenhous, Cruikshank, and Abernethy, are referred to in connection with this point. Still more to the purpose are those of Fourcault.

The next step taken by Mr. Lee, is an inquiry into the *Causes of Pulmonary Consumption*, if, indeed, we can refuse to admit what has just been said to be a part of the etiology of the disease. Certain it is, that these pathological premises prepare us for an appreciation of certain atmospherical conditions, such as humidity and brisk transitions of temperature, among the external causes of phthisis, and the absence or the free indulgence of exercise in the open air, as respectively a cause or a preventive. We repeat, without giving it full credence, the following opinion of the author. "The comparative exemption from consumption which the inhabitants of cold and dry countries enjoy, is attributable, in a great measure, to their greater activity, in order to guard themselves against the effects of cold." Dr. Foissac, in his recent work on Meteorology, quotes the remark of Dr. Wrangele, that "Diseases are of rare occurrence in Siberia, and old people preserve their vigor until a very advanced period. The exercise which they take in the open air, whether travelling on sledges or skating over the ice, is the chief cause of their good health." Pulmonary consumption, and tuberculous diseases in general, are especially frequent among young persons, or females who lead an inactive life, and hence it bears with peculiar severity on seamstresses, turners, &c. An active life, or active mechanical employments will, to a great degree, mitigate, if not nullify the depressing and deteriorating effects of humidity. With sedentary life and sedentary employments are generally associated defective ventilation, by which both lungs and skin suffer, unable as they are to quicken their functional exercise, and throw off the deleterious elements.

These being retained, poison the blood, and through it depress and deteriorate the nervous system, and thus almost insure the formation of tubercle, especially where, by inheritance or early weakness of frame, a predisposition to the disease exists. Ancell, Guy, Lombard, and others, have collected valuable statistical information on this head.

As connected with the effect of the impression of cold or dampness upon the surface in inducing tuberculous disease, Mr. Lee points out the neglect, the criminal neglect we would term it, of wearing clothes of such a texture and fashion as might protect the skin against the frequent vicissitudes and great extremes of temperature, so common in the climate of the United States, for on this point we may generalize, and of Great Britain. Females and children are the greatest sufferers in this way,—the former punishing themselves by yielding to the silly requirements of fashion; the latter punished by their mothers, and sometimes by their weak-minded fathers, who dress them out as if they were show-dolls in a shop window, to attract the passers-by. Exposure of the neck, chest, arms, legs, and feet, to cold and humidity, in these two classes of persons, tends to depress the powers of life, and to develop into a dangerous and fatal disease, a predisposition which, with a better system of physical education, might have been dormant for life. The absurdities of fashion bring the rich on the same level with the poor, in the privation of suitable covering and warmth for the body. We are surprised at Mr. Lee's omitting to mention and to press a practice of the highest importance, directly deducible from the facts previously stated, which show the necessity of preserving for the skin the full exercise of its functions, both as an organ of respiration and one of depuration. We refer to regular ablution of the entire surface, by the use of the bath, and to friction as accessary to bathing, besides that it imparts a healthy excitement to the skin. Excuses may be found for the poorer and less favored classes neglecting their balneatory duties, owing to the want of facilities for bathing, although there is no bar to a good daily washing of their skins: the process is of easy accomplishment, wherever there is a wash-tub, a bucket and water, and a corner of a room for one's privacy during half an hour. But what shall we say of the neglect of regular bathing on the part of the rich, and those in easy circumstances? Very many who would resent as an insult any imputation of their being uncleanly, and who shrink at the idea of wearing soiled linen, seem to have no dislike or dread of a perpetually soiled skin; coated for days, and weeks, and months, with the perspirable and other exuded matter, which has been allowed to dry and accumulate, without any attempt on the part of its owner to remove it by a bath, or its partial substitute, good daily friction with a flesh-brush or coarse towel.

Mr. Lee, while adverting to, errs in underrating the importance of wholesome food and good digestion, as one of the preventives of pulmonary tuberculosis. It is true that the dyspeptic in large numbers escape consumption, unless they have been predisposed to it; but it is not the less true that scanty diet must contribute largely to cause weakened digestion, and fail to furnish sufficient pabulum for complete hematosis.

"The effect of depressing passions and emotions has been" (Mr. Lee thinks) "too little considered by medical practitioners as strongly tending to tubercular cachexia." Of the interference by such perturbations with nutrition there can be no doubt, nor, as a consequence of their prejudicial operation in consumption. But yet, we remember in our youthful studies, to have read that a sedation of this kind was actually recommended in the disease, with a view to diminish the morbid activity of the circulation, which was supposed to keep up the symptoms, as measured by the frequency of the pulse. That was the age in which Beddoes told the world that digitalis would one day be regarded as exerting a controlling power over hectic fever, similar to that possessed by Peruvian bark over intermittent fever. Days of hope those—days of warning to us, that we may not pin our entire faith on cod-liver oil and iodide of iron now, as Beddoes and others did then on digitalis, the inhalation of factitious gases, and living over cow-houses, so that the invalid might breathe the air made balmy with the exhalations from the quadruped tenants.

The question, and it is a very important one too, of the marriage of the consumptive, or of those predisposed to consumption, is passed over by the author as foreign to the subject which he has undertaken to treat. It is true, as he justly remarks, that the principles of the prophylactic and curative treatment by climate and other means, "would be about the same in both cases;" the inherited predisposition and the adventitious disease.

The main topic of Mr. Lee's essay is reached in the fourth division, *The Effect of Climate on Tubercular Consumption.* Individual differences of constitution and temperament, and the stage of the disease, will modify not a little the views which we may entertain respecting the curative effects of the climate of particular localities. Among the more prominent conditions for the invalid to derive the greatest benefit by residence, for a season, in any one of them, are protection from great extremes and sudden vicissitudes of weather, and opportunity for being out and exercising much in the open air, without his running much risk of contracting catarrh, or, worse still, a pleuritic affection. It is almost equally necessary, on the other hand, that the climate should not exhibit a constant sameness, which, apart from its unfavorable physical effects, would induce a wearisome monotony of the mind and feelings. A uniformly calm atmosphere, scarcely disturbed by winds, or agitated by even a breeze, comes next to a stagnant atmosphere, and is detrimental to the full exercise of the respiratory apparatus, as well as to that of the cutaneous functions.

Let us now inquire briefly into the respective advantages of the most known and celebrated retreats and resorts for invalids, who leave home with the expectation of being benefited by a change of climate. We shall not presume on any experience personal to ourselves on this occasion, for although we have visited some of these places famed in story, before they were thought of hygienically, yet our stay was too brief to allow of our gleaning any information of moment on the main subject. Of the guides on our table, M. Rochard displays the most scepticism, Mr. Lee judicious selection of opinions, Sir James Clark caution in his praise and explicitness in his doubts and dissents, and M. Carrière fulness of detail and explanation, with an occasional blending of fact and speculation. We pass over Spain and the Balearic Islands, to light on France; and even in *la belle France*, we shall turn our backs on Montpellier and Marseilles, and casting a side glance at Aix, as one might be expected to do at a discarded favorite, we stop for a brief period at Hyères, which, according to M. Rochard, is the only spot in the south of France adapted to consumptive invalids. Hyères is only four leagues distant from Toulon; but it is separated from that city by a chain of hills, on the southern slope of which it rises, and is thus in a degree protected from the mistral, although at times this wind, the northwest, blows over it with considerable force. "Of sufficient elevation, and at a due distance from the sea to place it out of danger from the salines on the coast, and lost in the midst of orange groves and hedges of laurel roses, Hyères constitutes the most charming abode that could be selected by an invalid." M. Barth has given an inviting picture of this place, and, adopting his opinions, we should proclaim Hyères, with its mild and pure air, as admirably suited to cases of pulmonary catarrh, chronic pleurisy, and pulmonary emphysema. But when it comes to the effects of this air on phthisis, M. Rochard holds back from his countryman just named. "The cemetery of Hyères is stocked with the bodies of the consumptive, and death spares but a small number of those who have gone to it for a retreat from danger." A great many phthisical subjects, says M. Andral, visit this place every year, not to obtain a complete cure of their disease, but a prolongation in a greater or less degree of their existence. Is not this, in a few words, an opinion applicable to all the places of resort for invalids on the shores of the Mediterranean? But duty forbids us to shut out hope, and we continue our health quest. Sir James Clark, writing of the place, tells us: "When the weather does permit, the invalid residing at Hyères may enjoy the advantage of a variety of rides through a fine open country. But when the mistral wind blows with any degree of force, he should confine himself to the house if his chest be delicate; and he must be cautious at all times of exposing himself to this strong wind, which, independently of its low temperature, is very irritating. With all these objections, the climate of Hyères is the mildest in Provence."

We cross the French frontier and are in Italy, in the dominions of the King of Sardinia. The city which the first attracts notice on this route, and to which a large number of individuals annually resort, is Nice. Geographically considered, the territory on which this city stands is a continuation of Provence, the climatic character of which it closely resembles. The temperature throughout the year is more equally distributed at Nice than at any place in the south of Europe of which we have accounts, except Rome and Cadiz; the difference of the warmest and the coldest months being only 28°, and the mean difference of successive months only 4·74°. The range of temperature for the day is also less at Nice than at any other part of the south of Europe; and in steadiness of temperature it ranks next to Madeira.

The mild and agreeable temperature of Nice, continues Sir James Clark, depends, in a great measure, on the position of the place with respect to the neighboring mountains and the sea. The maritime Alps form a lofty barrier, which shelters it from the northerly winds during winter; and the cool sea breeze which prevails every day, with a regularity almost equal to that of a tropical climate, moderates the summer heat. The same writer, in stating its influence on the animal economy, would say, that the climate of Nice is warm, exhilarating, and exciting, but upon the whole irritating,—more especially during the spring,—at least to highly sensitive constitutions. It is extremely favorable to the productions of the vegetable kingdom, some of which flourish here in a degree of luxuriance that is scarcely to be equalled in the other parts of the south of Europe.

The dryness of the air of Nice, so generally asserted, is denied by M. Carrière, who gives a detailed description of the topography and climatic characters of this place, which, if a pleasant winter, is far from being an agreeable or a safe spring residence, owing to the predominance of sharp easterly winds in the latter season. Hence, invalids are advised to make their escape to a more southerly spot in Italy before the spring sets in. Lymphatic constitutions, and relaxation and torpor of the system generally, are benefited by the climate of Nice. This will include atonic dyspepsia, irregularities of the menstrual functions, with asthenia and anemia. In scrofulous complaints, in a remarkable manner, and in gout and chronic rheumatism, residence in Nice confers benefit. Humid bronchitis is greatly relieved by a winter's stay here. The same cannot be said of phthisis, which, Sir James Clark tells us, will, he fears, be little benefited. M. Rochard goes farther, and dismissing Nice in less than a page, quotes Dr. Pugh's melancholy account of seven persons, six young men and an old lady, consumptive subjects, finding their graves there in the course of a winter. Of the six males, Dr. Pugh firmly believes that four would have had their lives prolonged by a return to England, or by withdrawing to the south of France. Bricheteau says that in the hospital at Nice, one in seven of the deaths is from consumption.

Nice, with a population of 40,000 souls, has variety and amusement sufficient to prevent time from hanging heavy on the invalid. Two libraries with reading-rooms, a *circle* with a good library, and French, English, and Italian papers, a tolerable theatre, &c., offer resources in the city, while excursions in the country around, open to the eye a pleasing diversity of scenery and concomitant pleasures. The invalid who wishes to escape early in the spring has the road to Genoa open to him.

Menton and Villa Franca, the last of which is separated from Nice by a high hill, deserve, in the opinion of M. Rochard, to be much more highly thought of in consumption than Nice itself.

Genoa is not a fit residence for the consumptive. The same must be said of Florence,—attractive, enchanting Florence,—where learning and the fine arts so long have had their abode, and where still the man of study and of taste must love to make a long stay, even though it were to be for life. But the *poitrinaire* most carefully shun our favorite Florence as a winter residence, exposed as it is to the keen blast from the Apennines, at the base, or rather encircled by the spurs, of which it lies. This city is one of the places in Italy which agrees the least with children.

Pisa, the almost neighbor, and in her republican times, once the rival of Florence, has stronger claims on our notice as a winter residence for invalids. It is on the banks of the Arno, six miles from the sea-shore, fifteen from Leghorn, and about forty-five from Florence, a distance now travelled by railroad. Two ranges of hills shelter it in a measure from the northerly and the easterly winds. The best residence for invalids is the *Lung d' Arno*, a range of buildings in a crescent form, corresponding with a semicircular sweep which the Arno makes to the north, so that a broad space left between them and the river is in greater part sheltered from the northerly winds. This is the preferred residence for invalids, who can sun themselves while taking a stroll along the quays: these, together with the houses, and the cathedral, baptistery, and campanella, tell of the wealth and splendor of other times. The climate is genial, but rather oppressive and damp; the latter property is kept up by the great quantity of rain which falls,—45·66 inches,—and by the marshes, which extend to the west and south as far as the sea-shore.

Pisa has an advantage over both Nice and Rome in its being better sheltered than they are from cold winds. Invalids, who dread the easterly winds of spring at Nice, sometimes take shelter for a while during this season at Pisa. By the soothing and almost sedative character of its air, it contrasts with Nice and Naples, and is a good residence for irritable systems with a tendency to phlogosis, which would suffer from a stay in the cities just named.

Venice, of which M. Carrière gives an interesting topographical description, resembles Pisa in its moist and mild climate, and hence it is, like the latter, adapted to phthisis and other chronic affections of the respiratory apparatus. It has an advantage over most other places in Italy as well as those in the south of France, in the longer period of the year in which invalids can remain without suffering from heat. They may take up their quarters in Venice in the autumn, and prolong it to the end of spring. The best quarter of the city to spend the winter in, to enjoy a special climate, as it were in another climate, is, at the same time, the finest, the most brilliant, and the most animated, viz., that of the Square of St. Mark and the Piazzetta, and along the chief part of the great canal to the wonderful bridge of the Rialto and the quay of the Slavii, which extends from the palace to the eastern point of a triangle. There the traveller finds an oasis of verdure, planted, as a Frenchman is proud to tell, by French hands.

Rome, situated on a basin intersected by the Tiber, is open to the dry, cold, northeast winds from the Apennines, and to the warm, moist, southerly winds from the Mediterranean and Campania. Its climate, on the whole, is mild and soft, and the air still; high winds being comparatively of rare occurrence. As Sir James Clark well observes: "This quality of calmness is valuable in a winter climate for pulmonary diseases, and to invalids generally, as it admits of their taking exercise in the open air at a much lower temperature than they could otherwise do. To patients laboring under bronchial irritation, wind is particularly hurtful." It is only the plethoric and healthy who suffer from the *sirocco*, or warm wind of the south. The critical season for invalids is the spring, or in the months of March and April, when the cold winds set in,—generally in the forenoon, and continue till sunset, when they subside, leaving the nights calm and serene.

Rome, a refuge to the consumptive invalid and to one who suffers from bronchial affections and chronic rheumatism, is itself, in the latter part of summer and in the autumn, liable to periodical fevers, often of great violence: they are called by the physicians there *pernicious;* by us, as we see them in our own country, *congestive.* Another and almost peculiar feature in the Roman air is the excessive sensibility of the inhabitants, as evinced in a disposition to convulsive affections, and a singular susceptibility to the impression of odors by the females of Rome. Another class of diseases of a much more serious character, and apparently, like the last, of modern origin, is apoplexy, and other cerebral affections, and also diseases of the heart and great vessels. Inflammatory affections of the lungs rank next, and appear to be more violent and rapid than in northern climates. Tubercular consumption is not common, and occurs chiefly among the poorer classes, who are badly lodged, fed, and clothed.

Sir James Clark specifies consumption as a disease which is benefited by a residence in Rome, not only by the allaying of present disease, but by preventing the development of tubercle, especially in young and strumous habits, the class most in danger from such a change. Allusion has been already made to the good effects of the Roman climate in bronchial affections and in chronic rheumatism.

The invalid of the commonest sensibility to the wonders of art, either ancient or modern, and who is ever so little instructed in ancient history, must find continual pleasure in visiting the spots illustrated by valor, patriotism, and genius, and the collections of art in painting and sculpture. He must be careful, however, how he exposes himself in many of these visits to cold churches, ancient baths, &c. St. Peter's Church is perhaps the only spot in which, on account of the nearly uniform temperature of its vast aisles throughout the season, he can linger with safety. The rides around Rome are numerous and are moreover diversified by the scenery, and the classic recollections to which they give rise.

The usually pleasant picture of Rome as a winter residence is greatly shaded by the most recent sketches from the pens of the medical staff attached to the French army of occupation in this city. Thus we learn, from the observations of M. Journé, quoted by M. Rochard, that, in the Hospital of St. John of Lateran, of 2540 females admitted, from 1834 to 1836, 126 were attacked with phthisis, and that in the same space of time, out of 379 deaths, 110 were due to this cause; giving the frightful proportion of 1 of the latter to 3·25 of the former, a ratio only exceeded by Naples. The French troops suffered, also, more from phthisis than the same number of them do in France; it being in Rome 1 in 9·71, while in the latter country we have seen that it was 1 in 13·6. Typhoid fever and consumption are represented to work together with fearful effect in Rome.

Naples, so full of attractions to the traveller in health, is destructive to weak lungs, as is evident by the frequency with which phthisis claims its victims. The transitions of weather are frequent and considerable, and the daily range of temperature great. In the words of Sir James Clark, "Naples is altogether an unsuitable residence for pulmonary invalids." According to the tables of M. Journé, the deaths from phthisis, in the civil hospitals, are to those from all other diseases as 1 to 2·33, and in the military, as 1 to 3·85: both higher than in London. M. Carrière enters into many details of the topography, climate, and soil of Naples, its past and present reputation as a residence for invalids, and certain prospective advantages which improvement in the sanitary condition of the districts of Pozzuoli and Baiæ may offer. He lays stress on the exciting properties of the air of Naples, by which it is particularly deleterious to the nervous and the irritable, to the extent of causing insanity itself. On the other hand, hypochondriasis may here be made to forget its double wearisomeness; that from which its possessor suffers, and that which he inflicts on others: there, also, melancholy may be made to smile and expand its gloomy brow.

Malta, sometimes mentioned among the climates of the Mediterranean, deserves no special notice in connection with our present theme. Consumption is frequent there, and runs its course with greater rapidity than in England.

Of Sicily our knowledge is too imperfect to allow of any satisfactory attempt at describing its local climates.

Algeria is represented, by the French army physicians of that country, to be the promised land of the consumptive. It would seem that there is less consumption among the soldiers there than in France. We must wait, however, for further revelations before we venture on any positive conclusion. How many paradises have there not been announced for the residence of the consumptive, and yet how few, if any, retain their original character.

Madeira, classed by Sir James Clark among the Atlantic climates, offers many inducements to the invalid to visit it, and to spend not only the winter but the entire year on the island. It is so easy to change the climate by ascending from the maritime belt, and thus, after spending the winter in the last-mentioned district, to procure a summer abode of any desired temperature according to the elevation that is chosen. Still, Madeira forms no exception to all the climates hitherto spoken of, in its failing to avert the progress of confirmed tuberculosis. In the first stage of disease it would seem, however, to exert a really restraining power.

The extension given to the present article entirely precludes us from noticing even, and still more from investigating, the different alleged health-giving spots in the United States and the West India Islands. The subject is of an importance and extent to demand a separate review of all its bearings and promises. We should be glad to see this taken in connection with a special notice of the chapter on the "General Sanitary Relations of the United States Climate" in Mr. Blodgett's volume.

There is yet another point on which some emphasis is laid by more than one of the authors, whose works we have endeavored to analyze on the present occasion. It is a recourse to mineral waters, as ancillary to the influence of climate in pulmonary affections. This question more properly belongs to the hygienic course to be prescribed for the guidance of the invalid during the summer, so as to insure a certain degree of harmony of treatment throughout the year, and a continuance of the improvement gained in one season through the next. But this field of observation must be trodden at a future time.

ART. II.—*Lehrbuch der Krankheiten der Weiblichen Sexualorgane,* von Dr. F. W. SCANZONI, K. Bayer, Hofrath, Professor der Medecin an der K. Universität zu Würzburg. Wien, 1857; pp. 570.

Text-book of Diseases of the Female Sexual Organs, by Dr. F. W. SCANZONI, Prof. of Medicine in the Royal University at Wurzburg. Vienna, 1857.

WITHIN the last three decennial periods progress has been made in the anatomy, physiology, and pathology of the female generative organs, which challenges comparison with that made in any other department of medical inquiry. If it is a fact, as stated by one of the latest and best writers upon the subject,* that "thirty years ago the structure, functions, and diseases of the female generative organs were almost unknown," we have cause for congratulation on the increased knowledge we possess of these subjects, and a debt of gratitude to render to those who have, with so much perseverance, industry, and talent, investigated these interesting and important subjects.

Although an enumeration of those who have borne the chief part in this marked improvement would include some of those whose names are highest in the list of professional honor, and many who are renowned for their careful observation, profound research, and sound reasoning, there are many subjects in the department of our science yet unsettled—many upon which there exists a wide difference of opinion, and perhaps a wider difference than is usual in medical questions. This fact is not surprising when we consider the peculiar difficulties naturally attending the observation of the living patient, both as to the diseased conditions and the changes produced in them by remedies, and the few who are placed in situations where they can examine after death those changes produced by disease and by remedies during life.

Amid the conflicting opinions presented in books in our own language upon the importance of inflammation of a certain portion of the sexual organs of woman in deranging her general health, upon the use of certain mechanical contrivances for the cure of certain derangements of position of the organs, upon the frequency of the occurrence of ulceration, the value of caustics as a means of cure, and of the speculum as a means of diagnosis—amid the differences of opinion, we say, which prevail upon these subjects, it is well to look abroad for additional testimony on the questions at issue. Our science is bounded by no territorial lines; its teachings are confined to no exclusive dialect; and one may derive both pleasure and profit from perusing the works of our professional brethren in other languages, without claiming that they are better or more reliable than those of our own.

---

* West on the Os Uteri.

We look upon the work before us as one worthy of being examined upon the debated points. The author is a man of note in a country which has produced as many eminent obstetricians and gynakologists as any other in the world—the country of Nægelé, Busch, the Siebolds, Carus, Osiander, Bischoff, Wigand, Kilian, and Kiwisch. His large and complete treatise on obstetrics has rapidly passed through three editions; and this means a great deal more than the same fact in regard to a work in this country. At present he is connected with a university of excellent standing, and one which has the honor of having attached to it another name well known to the medical profession throughout the world,—that of Kölliker, Professor of Microscopical Anatomy.

In the preface, the author lays before us the aim and objects of the work, and the reasons which influenced him in undertaking it. Of the latter, the principal one is stated to be, that the literature of Germany, while it contains a large number of voluminous treatises upon the subject, yet lacks a compendious work adapted at once to the wants of the student and the practitioner. This want he seeks to supply; for in the size and number of the volumes devoted to this subject, he sees an explanation of the fact, that a thorough knowledge of diseases of women among the practical physicians of his country "is one of the greatest rarities." He expresses a confidence in his fitness for the task he has undertaken, by ten years' devotion to the subject, during which time he was in the Lying-in Hospital at Prague, and at the head of the female wards of the general hospital of the same city; he regrets the loss of these rich fields of observation by his removal to Wurzburg, yet claims an extensive private practice there besides the hospital advantages. In the execution of the work, he assures his readers that they shall have the result of his own observations, and no mere compilations; he, therefore, apologizes for what may otherwise appear the neglect of the observations of other writers, and seeks to supply in part the omission by a general and special bibliography. We cannot but regret this omission upon many most interesting subjects; yet by it the views of the author are more clearly presented, and the value of the work as an original one is increased. Following the preface are three or four pages of general bibliography, containing the titles of the principal works upon the subject from the time of Hippocrates.

The work is divided into seven sections, according to the anatomical division of the sexual organs. We proceed to examine such points in each division as are of importance, and to present those views of the author which we may judge likely to be of value or interest to readers in this country.

The opening chapters of the work are occupied with general observations on the symptoms produced by diseases of the uterus, both local and general. The facts are briefly stated which may suffice for the practitioner, but they are not explained sufficiently for the student to profit by them. The second chapter introduces us to the examination of the diseased uterus. In accomplishing this, he thinks no instrument should supersede the sense of touch, and that he who is not expert at recognizing diseased conditions by this means, will do but little better with the speculum. While his estimation of this instrument, as a means of diagnosis, is far from being as high as many writers in our own language, he yet considers it to be indispensable in many cases. From his experience, and from the pains he takes to urge its value, yet without inculcating its use until after the usual means of diagnosis or of cure have failed, we should judge that it is but little resorted to by the profession in general in Germany. He gives it as his experience that no patient, not even the most modest, will refuse to allow its application, if its necessity and value are presented to her in a proper manner; and that where it is neglected, the fault "lies always in the good will of the physician." We would simply remark, that a difference of country may cause a difference of experience; and although keeping in mind the class found in the wards of a hospital, those who have frequented a German obstetrical *clinique* will bear us out in saying that there is a wide difference in the conduct of the sex of the two countries in the same social position. As to the kind of instrument preferred, the author expresses the opinion that no one will answer for all cases; the glass tube with metallic coating is preferred, as being most generally useful; but as it is not manufactured in Germany, he recommends some of the many-bladed metallic instruments, although "the cases in which they are more valuable than the other are very rare indeed."

The author does not belong to the class of those who deny altogether the utility of the uterine sound as a means of diagnosis; and he is as widely removed from those who advocate its general and almost indiscriminate employment. We will allow him to speak for himself:

> "We have no intention of absolutely denying the usefulness of the sound for certain diagnostic and therapeutic objects; yet an extensive experience with the instrument during a period of many years, has forced the conviction upon us, that the advantages which were promised from its use in the beginning are not in truth nearly so great and numerous as were assumed for it; and although there are yet some gynakologists who maintain that an examination with the sound is an indispensable condition of a complete diagnosis of most diseases of the uterus,

yet we are convinced that this view will, within a short time, give place to a more just one.

"The experience that the use of the uterine sound is by no means so devoid of danger as some would have us believe, will contribute in the highest degree to this result; for however much practice and dexterity one may have had in the use of this instrument, yet there will nevertheless be cases where its introduction into the cavity of the uterus is accompanied with considerable difficulty, and more or less serious injuries of the uterine mucous membrane may be occasioned by it. Since it is known that abortion has been repeatedly occasioned by the use of the sound, even in the hands of the most practised and renowned gynakologists—that the most violent spasmodic pains [die heftigsten uterinalkoliken], profuse hemorrhages, and even dangerous uterine and peritoneal inflammations have followed its application—so should we be very cautious about resorting to it, even if it could render us the most important assistance in diagnosis,—much more so when, as we firmly believe, it is of only subordinate value; for there is not the slightest doubt that the diagnosis of all diseased conditions of the genital organs, which cannot be made by other modes of examination, cannot also be made, except in the rarest cases, by means of the uterine sound."

The author is not alone in these opinions upon the use of this instrument. Among others, we may mention a reviewer of "Simpson's Obstetric Memoirs and Contributions," who has seen extreme pain and suffering, occasioned by a persistent hemorrhage, follow its application, and believes that great care and judgment are required in its use.* West, in his "Lectures on Diseases of Females," just published, bears testimony to the fact that the introduction of the sound occasions pain in the "majority of instances;" yet his opinion of its value and harmlessness is much higher than Scanzoni's.

The author bears testimony to the high value of Simpson's sponge-tents for dilating the cervix uteri, as an aid in diagnosis, and directs their application in many places through the work.

In the chapter upon general therapeutics, regret is expressed at the extent to which general treatment has been neglected, in favor of local, in female complaints; yet the author does not think the former can ever entirely supersede the latter. In the use of depletion, he thinks nothing can be a substitute for the direct withdrawal of blood from the organ affected, and prefers the application of leeches to the uterus to scarification. The different caustics and different forms of their application are mentioned, and he recommends the actual cautery for "carcinomatous ulcers, and those which have obstinately resisted the application of other means." He bears testimony to the small amount of pain it causes, but, we are sorry to say, recommends its secret employment. He makes some excuse to the patient, and only informs her of the fact after she has recovered from the effects of the chloroform. He introduces a new article in this class to the attention of the profession—one which we do not think will be very soon or very often used in this country, being nothing more nor less than *melted sealing-wax!*

---

* British and Foreign Medico-Chirurgical Review, October, 1855, p. 331.

> "We cannot here omit calling attention to a mode of treatment which we have lately often applied, and indeed with the best effects, to obstinate ulcerations of the os uteri. This is the cauterization of the surface of the ulcer with melted sealing-wax. After the vaginal portion of the uterus is isolated by means of a horn speculum, a stick of sealing-wax is brought to the melting point, and its end immediately applied to the desired surface. This operation inspires far less horror than the actual cautery, and occasions a much more intensive and deeper effect than the application of all the various caustics of the pharmacopœia."

The application of caustics to the mucous membrane lining the cervix and cavity of the uterus is spoken of as matters of course. They are used either solid or in solution. For the application of the solid article, an instrument of Kiwisch's is preferred to the *porte-caustique* of Lallemand, from which, however, it differs but little. Injections are made first of warm water, then very weak solutions of the substance used, which are to be gradually increased in strength until the desired result is obtained. We confess we were surprised to find such proceedings recommended by an author who has urged the objections given above against the uterine sound. He does not deny the possibility of the injection penetrating the peritoneal cavity through the Fallopian tubes, but has never seen an instance where peritonitis has followed the proceeding; but he admits that intense pain and other unpleasant symptoms following it have often fallen under his observation.

> "But we have not seen these unpleasant results follow since we have adopted the principle of never applying remedies in this form except when the width of the cervical canal and os uteri allowed to the injected fluid a rapid exit; farther, we always limit the quantity of the injection to half an ounce, or not exceeding an ounce, and in applying it carry the point of a properly shaped syringe to the fundus of the uterus, against which the stream breaks, and flows down the walls of the cavity and out at the os."

Medicated pessaries, consisting of fine sponge dipped in the required solution, are recommended, as also those consisting of the remedy incorporated with an ointment, of such a consistence that, when inclosed in a fine muslin bag, it can be carried up to the extremity of the vagina. Such a pessary would consist of about ʒij of a mixture of lard and wax, in the proportion of ʒvj of the former to ʒij or more of the latter, and the requisite amount of the medicine to be applied. In this manner opium and belladonna may be applied; also various astringents, iodine, and the iodides of potassium and lead.

The solution and absorption of these ointments are, however, not rapid enough to make them of service where the indication is to relieve severe pain. Here injections must take their place, or the end be attained by the local application of the vapor of chloroform. This is spoken of in high terms, and an instrument represented for its administration which is very simple, and its place may be easily supplied by any one. The author has not yet had sufficient experience to give a full opinion upon it, yet he has seen it render excellent service. Its effects are produced in about ten minutes when it succeeds; and in some cases where it has failed, "a rapid and favorable result" has followed the introduction of the vapor into the rectum.

The injection of various medicines into the vagina receives the consideration which its importance as a means of cure demands; and delineations are given of various instruments for the application of the uterine douche, a remedy which the author considers of the greatest value. His remarks upon the temperature of injections, and the effect of different degrees of force with which they may be introduced, are of so practical a nature that we cannot avoid introducing them, although the quotation is rather long.

"As a general rule, it will hold good that the flow of blood to the genital organs increases in proportion to the temperature of the injected fluid; this is shown by the increased warmth of the vagina, by the turgescence of its walls, by the increased secretion of its mucous membrane, and, after long continuance of the remedy, by a perceptible intumescence of those portions of the uterus within reach of the finger. The patient complains of a feeling of heaviness, heat, and fulness in the pelvis, which sometimes extends to the lumbar region; not seldom the influence of the warmth upon the general organism shows itself by an increased frequency of pulse, a sense of fulness in the head, palpitations of the heart, and sometimes even by a smart febrile movement. The exciting influence of the warm douche upon the sexual system is also shown in the breasts by the considerable swelling of these organs and darting pains in them, and by the swelling of the lymphatic vessels and glands of the axilla. But the most decided evidence of this increased congestion is given by the increased menstrual flow which is so often seen to follow the use of warm injections.

"The application of warmth is recognized as a remedy of decided value in aiding the absorption of exudations, and it is not therefore surprising that enlargements of the uterus, which have their origin in inflammatory exudations in its parenchyma, so frequently decrease under the application of the warm douche.

"The effects of the cold douche are limited, at least in so far as perceptible, to the parts with which the water comes in immediate contact. When an examination is made shortly after the use of the cold injection, the vagina is found narrowed from the stronger contraction of its walls, and the secretion of its mucous membrane generally diminished; if there had been some sinking of the uterus and the walls of the vagina, in the first half or whole hour after the use of the remedy, it is entirely abolished, or very much moderated, and the effect of the cold upon the uterus itself is evident from the fact that enlargements of it, depending upon chronic congestion of its parenchyma, decrease in a marked manner even after a short use of the douche.

"The force with which the injected fluid strikes the uterus essentially modifies the effect of the injection according to its greater or lesser degree, so that the congestion resulting from the use of the warm douche is greatly increased if the fluid is poured into the genitals with considerable force and in an unbroken stream, and even a cold injection applied in this manner will produce the same effect as a warm one applied with less force. The mechanical irritation here supplies the place of the high temperature, a fact which should be borne in mind in cases where cold injections are ordered for a hyperæmia of the genitals or to arrest a hemorrhage."

Under the head of "Pathology and Therapeutics of the Uterus," the first division opens with a chapter on the absence and malformations of the organ, and others follow on its rudimentary formations, the result of checked development, on its atrophy and hypertrophy, and other subjects, which pass over the whole ground in that complete and laborious manner characteristic of the German mind. The subject of flexions of the uterus occupies no less than forty pages of the work. His views upon this subject attracted a great deal of attention, but the importance of his conclusions have not yet been fully determined.

The bend in the uterus usually takes place at the junction of the cervix and body, the extent of deviation from the normal axis varying very much, sometimes being so great as to produce complete *atresia uterinæ*, of which he gives two cases, the patients both being old women. Virchow holds that flexions of the uterus are caused by adhesions which connect it to other organs, the result of peritoneal inflammations. From this view Scanzoni dissents, although he admits the frequency with which these connections are met, and his best reason, among many, for dissenting from so distinguished an authority is that he has observed these deviations of shape in the organ where "not the slightest trace of peritoneal adhesions was to be found." He states that in these cases the cervical portion is always found more or less flattened from before backward, and its parenchyma evidently changed, the latter being less resistant, more spongy and weak than natural. Judging from a single microscopical examination, which we think small enough for a writer who has enjoyed such opportunities, he thinks that fatty degeneration of the walls of the organ is the cause of its altered shape, yet is obliged to leave the question to the pathological anatomists for decision. In this view, concerning structural change taking place at the point of flexion, he is sustained by several other writers. Although he is aware that these variations from the usual shape of the uterus are frequently found before puberty and after the cessation of menstruation; yet he thinks the absence of its periodical congestion prevents any symptoms being developed, and he finds in those conditions produced in the organs by pregnancy and child-bearing the chief causes of the accident. Too early marriage he looks upon as having a great influence in producing this as well as other diseases of the uterus, as also does too frequently repeated child-bearing.

In abortion he finds a prominent cause of the same. Of 252 births by 43 patients suffering from flexion, 12 were premature, and 44 abortions,—so that about 22 per cent. of the cases were interrupted in their course. He explains this influence by the statement of the fact that after abortion the involution of the uterus goes on relatively much slower than after labor, and by the much earlier period at which women resume their household duties after the accident than after the natural process.

The manner of termination of labor deserves examination in connection with the existence of flexion. Thus, of the 252 births mentioned above, 196 were at the full term; of these, 34 were terminated artificially, 14 by the forceps, 16 by version, and in four cases unknown. In thirteen cases version was necessary from transverse positions of the child, an "anomaly certainly occasioned by a greater or less degree of flabbiness of the uterine walls during the course of pregnancy;" and in many of the cases the forceps were necessary from insufficient pains.

> "Since it is certain that a delay in the involution of the organ after delivery follows where its power of contraction during labor is feeble, it is certainly not maintaining too much to say that flexions of the uterus are far more frequently observed in those who have been delivered artificially than in those who have brought forth naturally."

Of the 43 patients mentioned, 16 had been delivered of twins, and accidents during or after delivery had occurred in unusual proportion,—hemorrhage 64 times, inflammatory affections 24 times, and very severe after-pains 8 times.

Deficient involution of the uterus being, according to the author, the cause of these diseased conditions, he looks upon all those causes which produce the one as likely to produce the other. Leaving bed too soon after delivery he considers a frequent cause, it having been remarked in a large proportion of the cases he has seen. The influence of nursing the child is shown by the fact that 54 women suffering from flexion of the uterus had given birth to 196 children at full term, of which only 57 children had been suckled.

> "Nobody will pretend to deny that the irritation of the nerves of the breast from suckling the child, by the more energetic contractions of the uterus it produces, not only occasions its present diminution, but essentially assists its entire and permanent involution; but when this favorable impulse is lacking, it is plain that the larger, heavier, and likewise flabby organ, more readily gives way to any external impulse, sinks over backwards or forwards, and a flexion is thus easily established."

The symptoms accompanying ante- and retro-flexions of the uterus are pains, menorrhagia, leucorrhœa, and difficulty in voiding the contents of the bladder and rectum, various derangements of digestion, and chlorosis. Derangement of menstruation in regard to quantity and time come first, then pain, difficulty of urination, and other symptoms following in order. But these, in the author's opinion, are only *accompanying* symptoms.

> "Authors have, however, gone much too far when they have represented all these symptoms as the *immediate* consequence of the inflexions of the uterus. We would by no means deny that this evil is an important one for the economy of the whole body, yet we cannot avoid expressing the conviction that lately, when inflexions of the uterus have become a fashionable subject, and a hobby-horse for gynakologists, if we may so express ourselves, that lately the importance of the same has been by far over-estimated, and an influence ascribed to them, upon the sexual system, as well as upon the general organism, which they can only mediately exercise.
>
> "We ourselves formerly, in the beginning of our gynakological practice, ranked with those who, like Kiwisch, Mayer, Simpson, Valleix, and others, could not estimate high enough the injurious influence of inflexions of the uterus upon the general health of the patient; we confess openly that it was only with difficulty that we abandoned a doctrine which is yet looked upon by a considerable number of able colleagues as one of the most important advances in the domain of uterine pathology. But, finally, we have been compelled to abandon our earlier convictions through numerous observations directly opposing them, and we now candidly express our opinion, *that inflexions of the uterus only attain a great importance, only have serious derangements of health following them, when some other organic change is associated with them.*"

The proofs of this statement are given at length, but may be briefly stated to be founded on the discovery he made of the presence of these deviations in the examination of patients who, during life, were under his observation, and in their last illness were under his care, and who yet had no symptoms of uterine disease; and of cases in which he satisfied himself during life of the existence of inflexion, and which was unaccompanied by anything more serious than a slightly increased mucous discharge. He looks upon the inflexions as sometimes the cause and sometimes the consequence of changes in the texture of the uterine walls.

In treating of the diagnosis of this disease, he again notices the uterine sound, and its value in effecting this object. The frequency with which he has seen injurious consequences follow attempts to introduce it into a flexed uterus leads him to reject its use, except in cases where all other means of diagnosis have failed, and such cases he thinks occur but very rarely.

> "But it may be suggested that this instrument essentially assists those practitioners in diagnosis, who, not being professed gynakologists, would willingly avail themselves of an instrument which, although not indispensable to the experienced, is with them scarcely to be avoided. To this we would reply, that it is in just such hands that the sound is an extremely dangerous instrument, and that when such an one cannot arrive at the true state of affairs in other ways, he is least of all likely to do so by means of the sound, for the simple reason, that he who cannot diagnose an inflexion from a manual examination, can never, or at least only very seldom, indeed, succeed in passing the sound beyond the point of flexion."

The cure of this evil he considers as one of the most unpromising tasks the physician can undertake; it defies medicinal and mechanical means, because its progress is so gradual that attention is not called to it until organic changes of such a degree and nature have supervened as to place it beyond the reach of remedies. He has seen three cases of anteflexion where conception took place and gestation went to the full term. In two of these cases a perfect and permanent cure was the result, in the other the flexion returned after delivery in increased degree; but as the result of his own treatment he has not seen a single permanent cure.

He does not at all agree with the doctrines which have become so popular of late, in regard to the application of mechanical means for its cure. He has had experience only with the intra-uterine pessaries of Kiwisch, Valleix, and Detschy, but expresses himself plainly upon their merits in general:

> "After all that we have seen of these instruments, we cannot give our assent to their use. We hold their application to be dangerous, useless, and, in consequence of many circumstances attending individual cases, impracticable and unreliable."

He refers to the journals as containing numerous instances of the dangerous effects following the application of this instrument, and testimony of the same character can be found in writers in our own language, especially in the works of Bennett and Tilt. After relating a case where the stem pessary caused peritonitis so severe that for several days life was in imminent danger, he says:

> "Violent and very painful contractions of the uterus, and profuse hemorrhages from the irritated mucous membrane, we have repeatedly observed, but these circumstances would not have frightened us from a farther use of the instrument if we had gained the conviction that it can really, as maintained on many sides, render essential and permanent service in the cure of the disease. Unhappily, this is not the case. When one has seen women submit themselves for months together to this highly painful mode of treatment with the greatest patience and perseverance; when one has seen them, during this long time, renounce almost all social enjoyments, in order to be able to wear an instrument from which they confidently expected the cure of all their sufferings; when one has seen all this, after all these sacrifices on the part of the patient, and found no case in which relief was permanent after removal of the instrument, so will one have good reason to doubt its adaptation to the disease and its power of cure."

The author remarks, that it may be retorted upon him that others have had such success with this mode of treatment that his failure must be attributed to his unskilfulness in the use of the instrument. To this he replies, that he has followed Kiwisch in the city where he now resides, Wurzburg, and that he has now in his wards twelve women who have worn the apparatus, and been under the personal care of that celebrated man, and that they are still suffering under the inflexions of the uterus for which the intra-uterine pessary was first applied. In his treatment of these cases he recommends that attention be paid entirely to the organic changes which may have taken place, and to the various symptoms consequent on or accompanying them; dysmenorrhœa, menorrhagia, congestion, induration, are to receive their appropriate treatment, both constitutional and local.

Ante- and retro-versions are treated in like manner, and we need not consider them at length. Intra-uterine mechanical supports are entirely rejected; he recommends the hypogastric bandage, to remove the weight of the abdominal viscera as much as possible from the pelvic organs, and limits active treatment to the removal of the accompanying congestion and other conditions upon which most of the distressing symptoms depend. This coincides with the course pursued by West, as stated in his "Lectures on Diseases of Women," in the following brief sentence: "To the best of my power, I take care of the general symptoms, and leave the misplacement to take care of itself."

The author attributes to relaxation of the vagina and of the ligaments the chief importance in producing prolapsus and procidentia of the uterus, and looks upon the congestion and ulceration usually present in these cases as a consequence of the displacement. After reduction of the inflammation, he proceeds immediately to the use of mechanical support. His remarks on the kind to be chosen are highly judicious:

> "A tolerably extended experience in this department has convinced us that none of these instruments, and there never will be any, are equally adapted for all the different cases. An important support to this view is found in the varying sensibility of the parts in different females; for while some can bear without difficulty an instrument of the hardest material, which presses on and extends the walls of the vagina, another cannot endure the application of a soft sponge dipped in oil. Another proof is to be found in the fact that, in the construction of all these instruments, only one mode of origin of the difficulty has been taken into consideration, and it is therefore unadapted to cases having a different origin. We have, therefore, to keep these two points in mind in choosing an instrument to support the uterus; and, also, never to apply any apparatus which prevents the application of those remedies which may be necessary to effect a permanent cure of the disease."

In the mildest cases he recommends a sponge properly shaped, and applied when the patient is in the recumbent position; this may after a time be saturated with various astringents. The application of the latter in this manner and by injection, with those constitutional measures which may be requisite in each case, are to be adapted to the varying conditions of the case. The instrument for mechanical relief to which the author is most partial is the uterine supporter of Roser as modified by himself. It consists of a metal plate adapted to fit closely on the pubis, and retained in place by straps passing around the hips and between the thighs; to this a steel bow is attached by one end, the other terminating in an egg-shaped ebony pessary; the curve of the bow can be adapted to the patient, and by its attachment to the plate it can be lengthened or shortened, while a joint allows of some lateral motion. In some cases, where there is great relaxation of the posterior wall of the vagina, a pessary is recommended which shall widely dilate the canal in a lateral direction, and various instruments, invented by German physicians, are delineated. The gutta percha bag and tube, which is to be filled with air after its application, has been sometimes found preferable to all other means.

His experience has not been favorable to operations for the radical cure of these displacements. That consisting in removal of portions of the mucous membrane, to produce a narrowing of the vaginal canal, he has performed thirteen times, and that to afford support to the organ by causing adhesion of the posterior portions of the labia (episiorrhaphy), five times, but he has never been satisfied with the results.

> "The contraction produced in the vagina yielded in a few weeks to the continued pressure of the uterus, while in the cases of union of the labia sometimes a sufficient breadth was not obtained; sometimes the united parts, in consequence of the continued pressure of the uterus upon them, gradually extended, and finally increased the opening to such an extent as to allow the protrusion of the uterus as before."

He speaks unfavorably of Pauli's method—one not likely to come into use here—and of Desgrange's mode of narrowing the vagina by the application of numerous pincettes.

Full chapters are given upon the subjects of acute and chronic inflammation of the parenchyma of the uterus. The former occurs too seldom to demand our notice. In the treatment of the latter, the chief means depended upon is the repeated application of leeches to the cervix; injections and warm baths, both containing iodine or bromine, follow sufficient depletion; and if these means fail, the use of the waters of Marienbad, Karlsbad, or Ems, is recommended. When the system shows evidence of insufficient blood-formation, iron is to be given, especially the iodide. With these means he has generally been successful in reducing the inflammation and removing the induration. He has seen nothing but injury result from a mercurial course in these cases.

We regret that the author has not entered into the questions of the importance and frequency of occurrence of ulceration of the os uteri, which has attracted so much attention within a few years past. We miss the title of Bennett's work in the bibliography preceding the chapter upon this subject, which was scarcely to be expected, since "West on the Os Uteri" is there, and Bennett's work is mentioned in other parts of the volume. However, the author must be classed with those who do *not* believe that ulceration of the os uteri is a primary affection, entailing innumerable constitutional diseases as a consequence of it; with those who do *not* believe it to be the *fons et origo* of all female diseases, although he admits that the frequency with which it occurs renders it worthy the especial study of every practitioner.

He recognizes seven forms of the disease:

1. The simplest form consists in *erosions* or *excoriations* of the mucous membrane, which so usually accompany and are caused by acute or chronic uterine catarrh. In this class he also considers the *aphthous* form of the disease, which follows the appearance of minute vesicles upon the part.

> "It is this form of the disease which has been described by some English and French writers as *herpetic*, and as the local manifestations of a constitutional condition. Although we have never been able to convince ourselves that the eruption was herpetic, yet we are compelled to assent to the opinion expressed above, by some cases which have fallen under our observation, in which anomalies of blood-formation and mixture were at the bottom. For as an aphthous condition of the mucous membrane of the mouth, frequently follows derangements of digestion, exposure to damp and cold air, etc., so does the disease under consideration frequently appear after the influence of like causes; we are strengthened in this opinion by observation of a woman, otherwise healthy, who suffered a long time with aphthæ of the buccal mucous membrane, and who also had a fresh

eruption upon the cervical portion of the uterus with every return of the affection of the mouth."

In and of itself these forms are of little consequence, but as the commencement of more extended and more serious forms they demand treatment. That depending upon catarrhal inflammation can only be cured by curing the disease upon which it depends; in the independent form, if there is such a form, a period of four or six weeks is necessary for the restoration of health. Local depletion by means of leeches is the first step to produce this result, then solution of nitrate of silver in the proportion of a scruple of the latter to an ounce of water, applied every five or six days. Constitutional treatment in this, and all other forms of the disease, is not to be neglected.

"Finally, it must be mentioned that in the treatment of erosions and all other ulcerations of the cervical portion of the uterus, a proper hygienic regulation of the patient is of great importance—especially the free enjoyment of pure air, the use of digestible food, and the removal of and abstinence from everything favoring hyperæmia of the pelvic viscera. The retention of the horizontal position for weeks together, as highly recommended by some, we do not consider judicious from the derangements of digestion, constipation, and imperfect blood-formation caused by it."

2. If the above simple forms of ulceration are neglected, or if they are aggravated by uncleanliness, venereal excesses, or frequent child-bearing, they take on a more severe form, called *granular*, from the peculiar appearance it presents. This never heals spontaneously, and is never a simple form, but always accompanied with considerable textural change, such as chronic induration, obstinate catarrh, of which it is sometimes the cause, though sometimes the consequence. Treatment is commenced with leeches applied to the part, and a course of aperient mineral water, continued until the accompanying hyperæmia of the organ is removed. After this, if the constitution of the patient has suffered from long duration of the disease, a tonic course of treatment is recommended, especially the preparations of iron. It is generally advisable to unite a tonic general treatment with the local, even though the latter may be depletory in its nature—a proceeding in accordance with sound general principles. Injections are of service as a means of cleansing the parts, which is indispensable to satisfactory treatment, and as a vehicle for astringents, of which solutions of alum and of muriate of iron are preferred; but caution is given not to inject the fluid with too much force, a proceeding likely to increase the congestion which we are seeking to remove, as heretofore explained.

"Almost indispensable for a favorable result of the treatment of such ulcerations is the repeated application of caustics. As to the choice of the article,—

> for cases with little loss of substance and of small extent, with few granulations, and not much congestion, the nitrate of silver in substance is sufficient. If the ulcer is more extensive, with numerous granulations which readily bleed on touching, or if four or five applications of the arg. nit. have produced no good result, we must proceed to more powerful articles, among which the *liquor hydrargyri nitrici oxydati*, and the so-called Plenck's Solution (Hydrarg. bichlor. ʒii, Camph. ʒi, Alcohol ℥ii), deserve the first mention. These liquids are to be applied to the ulcerated surface with a brush or sponge, yet great caution must be taken that they come not in contact with the walls of the vagina, upon which they would produce severe effects. Also care must be taken not to apply the caustic too often, as it often happens, and we have sometimes observed it, that profuse and obstinate salivation follows neglect of this precaution."

If these means prove unavailing, the Vienna paste, and the actual cautery are to be applied. His experience does not allow him to recommend the application of tr. iodine, pyroligneous acid, or concentrated sulph. acid as caustics, nor has he seen any benefit from covering the ulcerated surface with collodion.

3. *Fungous ulceration.*—An exaggerated condition of the preceding, in which the ulcer is covered with growths, sometimes described as "cock's-comb granulations." Treatment is to be conducted upon the same general principles as above given; scarifications may take the place of leeches from the readiness with which the growths bleed, and excision is to precede the application of caustics.

4. *Varicose ulcers.*—These occur but rarely. The name is sufficiently explanatory of their nature, and the following quotation indicates the conditions giving rise to them and their treatment.

> "So far we have never seen varicose ulceration of the lips of the os uteri except where, either from the presence of large tumors in the abdomen, or from disease of the heart or lungs, there was persistent obstruction to the return of blood from the pelvic vessels; sometimes we have seen it accompanied with a high degree of varicose distension of the hæmorrhoidal veins, in which cases a tolerably copious flow of blood from these vessels, almost constantly, produced a decrease of the hyperæmia of the uterus and the bleaching of the ulcer, with sometimes the total disappearance of the enlarged vessels which had been seen upon its surface."

5. *Phagedenic ulceration* is a form of disease known to the author only by the description of English writers, as Clark and Lever, who describe it as "corroding ulcer of the uterus." He also says that it has never been seen by any continental observer, and agrees with Kiwisch in supposing that those who have thus described it have mistaken it for ulcerated cancer with great loss of substance. In support of this view, he adduces a case which fell under his own observation and ended fatally. From the loss of

substance and the peculiar appearance of the ulceration, "the pathological anatomists felt themselves compelled to reject the diagnosis of cancer, made at the clinic, and to declare the affection a phagedenic ulceration," yet a further and more minute examination proved the presence of cancerous infiltration in the diseased mass and in the neighboring lymphatic glands. He also quotes Rokitansky, who describes the similarity between destroying ulceration of the cervix uteri, and phagedenic (cancerous) affections of the integument.

6. Upon the subject of *syphilitic ulceration* of the cervix uteri, he disagrees with Kiwisch, who points out two forms of this kind of ulcer. Neither from reading nor observation has he been enabled to distinguish the difference between syphilitic and simple ulceration of the uterus; he quotes German writers who have enjoyed the widest fields of observation, to show how rarely primary syphilitic sores are found on the cervix, while erosions and granulated ulcerations are constant accompaniments of vaginal and uterine catarrh, diseases so frequent in those who pursue a life likely to make them the subjects of chancre.

7. *Cancerous and tubercular ulceration* are considered in connection with the diseases with which they are only found, and they make up the last of the seven divisions under which the author considers these affections. Our only excuse for occupying so much space with them, must be the desire to present his views in full, upon a subject at present receiving so much attention as the one in question.

The subject of leucorrhœa is considered under the heads of acute and chronic catarrh of the uterus. As an independent disease its existence is ignored, and in this the author agrees with Rigby, who remarks in his lately published work, "Constitutional Treatment of Female Diseases," p. 80, "To consider leucorrhœa, *per se*, as a peculiar disorder or disease, requiring specific treatment, appears to be as unpractical and erroneous as it would be to treat of an affection called *expectoration*." Yet the author does not, of course, maintain that this catarrhal inflammation is always the primary disease, but points out its frequent dependence upon textural changes, such as polypi, tumors, and chronic induration of the uterus. The reaction of the discharge is depended upon to distinguish the uterine from the vaginal forms of the disease—being alkaline in the former, and acid in the latter, as pointed out first by Whitehead, and since substantiated by Tyler Smith. In the treatment of this disease he does not recommend or countenance any plan which is limited to either local or constitutional means; the two must be united to produce a cure. Where the inflammation of the mucous membrane, which causes the discharge, is but the result of some form of organic disease, of course treatment must be directed to that; where it is simple and primary, the extent to which local depletion and aperients are to be carried, will vary with the more or less acute character of the case. Aperients are preferred in the form that nature presents them in various mineral waters; and such a course of life as is generally led at watering-places is highly recommended. Injections should be commenced lukewarm and gradually decreased in temperature, and astringents added. In severe chronic cases cauterization of the interior of the cervix and body of the uterus with the solid nitrate of silver is recommended, which is to be repeated every twelve or fourteen days for six or eight weeks. If these means fail, he has no faith in the use of the preparations of iodine, catechu, copaiva, rhatany, kino, or like remedies.

Anomalies of menstruation are considered under six different heads. 1, too early appearance of menstruation; 2, delayed appearance; 3, too early, and 4, too late cessation of the flow; 5, want of the most important symptom of the menstrual hemorrhage, during the period of sexual life; 6, menorrhagia; 7, dysmenorrhœa. These chapters are preceded by one upon the subject in general, its influence upon the general health, etc. From the pains he takes to impress upon the reader the idea that suppression of menstruation is more frequently a consequence than a cause of deranged general health, and that a retention of the usually excreted fluid, cannot have any injurious effect upon the system at large, we draw the inference that the physiology of the function is not as well understood in the land of Bischoff as it deserves to be.

We pass over the chapters on uterine tumors, and the second and third divisions of the work, the one upon the pathology and diseases of the ligaments of the uterus, the other upon those of the Fallopian tubes, and pass on to the fourth, on ovarian diseases, as far more worthy of the space which remains at our disposal. This is a subject to which, probably, more attention is at present directed than to any other in this branch of medical science. Peculiar difficulties surround the investigation of diseases of the ovaries, on account of their situation, and the extent to which morbid processes may advance in them before they attract attention; while a decision upon the best of several modes of treatment is embarrassed by the conflicting nature of the testimony given by the few who have enjoyed advantages of observation sufficient to render their opinions of value.

What is the extent and character of the influence which disease of the ovaries exerts upon menstruation? This is a question very variously answered by different authors. Some state that the menstrual flow under these circumstances is always suppressed or deranged; others that this is only generally the case; others that it *may* occur; while one well-known writer sees the cause of all anomalies of the function, without exception, in ovarian disease. Our author allows a certain value to variations from normal menstruation in forming a diagnosis of disease of the ovaries, but the following quotation will show his opinion of the "ovarian theory:"—

> "It is generally understood that the state of the menstrual hemorrhage, singly and alone, allows of a judgment upon the regular or abnormal progress of ovulation. But that this cannot be exact and reliable, is evident from the fact that the maturation and expulsion of the ovum can proceed regularly; and nevertheless many anomalies of the external sign, the menstrual flow, may occur. On the contrary, it is well known that the ovaries sometimes exhibit very considerable organic changes, and that nevertheless menstruation has not exhibited any disturbance; this is even observed in diseases of both ovaries, so long as yet a part remains which contains a single Graafian vesicle in which the ovum can proceed to its development."

The bibliography preceding the chapter on the important subject of ovarian tumors is fuller of English names than that belonging to any other subject in the book. It contains, we believe, the name of every writer upon this subject of note in Great Britain. The work of Clay, published last year ("Complete Handbook of Obstetric Surgery"), is not, however, included,—a fact which is to be regretted, since his experience was far greater than at the time of publication of the work mentioned by Scanzoni (1842), and his statistics bear strongly upon the point of extirpation.

Ovarian tumors are divided by the author into two classes, cystic and solid. The first is subdivided into simple cysts, united cysts, colloid tumors, cysto-sarcoma, and cysto-carcinoma; the second class into fibrous, enchondromatous, cancerous, and melanotic. By simple cystic disease he means the true dropsy produced by dilatation of a Graafian vesicle, while the united cysts arise from excessive growth of the fibrous tissue of the stroma of the ovary, the resulting cavities afterwards becoming filled with fluid of different consistence. It is this form of disease that sometimes presents instances of teeth, hair, bones, &c., in the tumor.

Colloid disease must not be confounded with the cancerous disease of the same name; the author in this follows Virchow, who applies the term to a tumor made up of a multitude of cysts filled with a tenacious, gelatinous fluid, and well known under the name of *multilocular cystic dropsy*, but differing widely in its origin, progress, and termination, from dropsy. The views of Virchow upon the pathology of this form of disease may be found in Rigby's late work on the "Constitutional Treatment of Female Diseases."

The relative frequency of occurrence of the different forms of tumor given above is represented in a table of forty-one cases, in which a post-mortem examination allowed of a certain decision upon the subject; these were the fatal cases which occurred in ninety-seven of ovarian tumor, found in an accurate record of 1823 cases of female disease examined by the author. Of the 41 cases, there were, of simple cystic dropsy, 13; united cysts, 12; colloid tumor, 9; cysto-sarcoma, 5; and cysto-carcinoma, 2. The following table shows the side upon which the disease occurred, compared with the results given by Lee and Chereau:

	No. of Cases.	Right Side.	Left Side.	Both Sides.
Lee, . .	93	50	35	8
Chereau, .	215	109	78	28
Scanzoni, .	41	14	13	14

The ages at which the patient first observed symptoms of the disease in ninety-seven cases are stated in another table; suffice it to say, that of these, sixty-seven were between the ages of thirty and forty years.

Of the ninety-seven patients, fifty-one had never conceived; and of forty unmarried, there were sixteen with the genitals in a virgin condition; from which the author concludes that entire abstinence from sexual enjoyment must be considered as in some measure a cause of the disease. But he finds it difficult to decide whether sterility is more frequently a cause or a consequence of the disease.

Upon the subject of diagnosis of these tumors we extract the following paragraphs on auscultation:

> "If the large vessels at the entrance of the pelvis are compressed by the tumor resting upon them, or if there are developed within the tumor itself large vessels, especially arteries, it may be that on auscultating the lower part of the abdomen, particularly the inguinal region, that vascular murmurs are heard, which are identical with those murmurs known as uterine, which occur within the pregnant uterus. Notwithstanding the occurrence of these murmurs in cases of ovarian tumor is denied by some, for instance Kiwisch, yet we can assure our readers that we have perceived them with perfect certainty in several, although not in numerous cases, where the post-mortem examination afterwards proved the existence of ovarian tumor, and our observation has been supported by that of other listeners; we will mention, however, that we could never discover these sounds in cases of simple cysts, but that it only occurred in connection with more compound tumors provided with a more developed vascular system.
>
> "As a second auscultatory symptom, perceptible in the lower part of the abdomen, must be mentioned the friction-sound, which is to be heard at some points of the abdominal walls during the movements of respiration, and those resulting from change of position of the patient. It arises undoubtedly from the rubbing together of the rough outer surface of the tumor and inner surface of the abdomen. This roughness is the result of exudations which have been poured out on these surfaces, and which were found present in every fatal case we examined. Near these roughened surfaces there were found also, without an exception, more or less numerous and intimate adhesions of the tumor to the anterior wall of the abdomen, so that we believe we do not go too far when we maintain that this

friction is to be considered as an almost reliable sign of the presence of adhesions. We will also mention that the roughness of the surfaces sometimes reaches such a degree that the hand laid upon the surface easily perceives the friction."

We are told in a late work on female diseases that ascites and fibrous tumors are the only diseases likely to be confounded with ovarian tumors, although pregnancy is afterwards alluded to as being possibly mistaken for them. Compared with such a statement, the fulness and minuteness of our author upon the differential diagnosis of these tumors deserves notice. Besides the conditions just mentioned as likely to render a diagnosis difficult, he enumerates organized exudations in the folds of the peritoneum, retroverted uterus, extra-uterine pregnancy, subperitoneal cysts, accumulation of fæces in the cœcum or sigmoid flexure of the colon, flatus, exostosis and fibrous tumors of the pelvis, enlargements of the spleen, kidneys, and liver, and distended bladder.

Enlargements of the kidneys and liver the author says are very unlikely to be mistaken for ovarian tumor, yet an instance has occurred in this country where an ovarian tumor was called an enlarged liver even after removal from the body. It would seem that a distended bladder could not easily be mistaken for ovarian dropsy, and yet many authors mention the fact that this organ has been pierced by the trocar introduced under such a misapprehension.

We proceed to notice the different modes of treating the disease for a radical cure. The author has no faith in general treatment, although he has seen some tumors remain stationary and a few decrease in size during a course of alteratives, and the use of some of the mineral waters. Simple puncture of the cyst, with evacuation of its contents, is an operation he is opposed to, as not being entirely free from danger, and as very unlikely to fulfil the desired object, although he has seen two cases where a permanent cure resulted from it. The attainment of a cure by this means is only possible where the cyst is single, and improbable then from the impossibility of tapping it low enough to drain it entirely of fluid, a condition almost essential to obliteration by adhesion of its walls. He counsels this mode of treatment only in cases where, from the position of the tumor, it is impossible to put in force the next following mode of puncture, and considers those cases where the tumor does not exceed the size of a man's head as most likely to result in a cure. As there is a laudable disinclination to proceed to operative interference until compelled to, we think the tumor will generally be allowed to surpass the size, and when this is the case, the author is not in favor of tapping until the patient is highly incommoded by it, or until danger is occasioned by its pressure on vital organs.

> "If the aforesaid be kept in mind, and the large ovarian tumors considered as true '*noli me tangere*,' the number of cases in which paracentesis abdominis is performed for them will be far less than has been heretofore the case; and we cherish the conviction that with the increasing rarity of this operation the lives of these unfortunate patients will be longer spared, than in the time when the presence of hydrops ovarii was alone the indication for the use of the trocar. We refer those of our readers who are interested to the tables of Lee, already quoted, which show that paracentesis, as a palliative in ovarian dropsy, is a very dangerous proceeding; that when recourse to it has once been had it must be frequently repeated; that the relief from one operation to another constantly decreases, and the danger as constantly increases."

The dangers of the operation are then enumerated at length, the chief of which are inflammation and suppuration of the sac, peritonitis, hemorrhage from wound of a vessel ramifying on the cyst, on the walls of the abdomen, or of the omentum, which last occurred under the author's observation, and terminated fatally. Sometimes the operation is followed by nervous depression, convulsions, and collapse, from sudden evacuation of the fluid, and consequent tension of organs united by adhesion.

There is nothing peculiar about his mode of operating, except that he allows the puncture to be made through the umbilicus under certain circumstances,—a proceeding which is cautioned against by most other writers; and he mentions a patient in the hospital at Wurzburg who had tapped herself, by opening an ovarian cyst, which protruded at this point, with a razor, no less than twenty-two times in three years,—a case far more wonderful to relate than creditable to the regulations of the hospital.

Puncture of the cyst through the walls of the vagina is the favorite treatment of the author,—one which he prefers to all others, and would always put in force were it always practicable; but, of course, it can be performed only in cases where the situation of the tumor is so low as to bring it in contact with the upper part of the vagina. A trocar is to be introduced into the cyst, and if the fluid is too viscid, the puncture may be carefully enlarged to an incision an inch or inch and a half in length, and tepid water may be injected to favor its flow; after evacuation, the canula is to remain eight or ten days. The advantages of this mode of operation in procuring a more perfect removal of the fluid are obvious, but we cannot see upon what grounds the author claims that it is less likely to be followed by inflammation of the sac and peritoneum. Such inflammation arose in three out of fourteen cases operated upon by him; but a radical cure followed in all three, as was proved by many years' subsequent observation. Of these fourteen cases, he is certain of a perfect cure in eight; in two the cyst filled again within a few weeks; three withdrew from observation, and one died of typhus two months after the operation, but no post-mortem examination was held. He has had no fatal case, but seen one in Kiwisch's practice; he has had one case of cure following the second puncture by this method.

Puncture of the cyst, followed by injections of irritating fluids, is at present attracting considerable attention, and the plan is now being tested by some of the best men of Great Britain, whose decisions we look for with the greatest interest. It is a plan which finds no favor with the author. His criticisms are directed against Boinet's plan, which consists in puncture and evacuation, the repeated injection of solutions of iodine, and iod. potassium, and the retention of a catheter in the cyst, which, after the seventh or eighth day, is to be frequently changed. The objections are, that by the gradual contraction of the cyst the catheter may slip out of it, and the next injection be made into the abdominal cavity; that adhesion does not invariably take place between the cyst and abdominal walls, and that the same accident may occur on changing the catheter; that we cannot always be sure of a simple cyst; and that it is impossible to estimate the amount of inflammation which will follow. Death sometimes follows simple puncture, and is far more likely to result from injection of such fluids, and he gives a case in his own practice, where he put it in force for a simple cyst which had repeatedly filled, and in which death followed on the fifth day after the operation.

Incision of the sac, as recommended by Ledran, Velpeau, and others, he is also opposed to, as in cases of simple cysts puncture is far preferable, from the smaller injury inflicted on the peritoneum. The latter also affords sufficient opportunity for escape of the contents, if fluid, while, if they are viscid, the disease belongs to the multilocular class, and evacuation cannot be procured. He fears the dangers of peritonitis from acupuncture, application of caustics, &c., which have been recommended preparatory to this operation.

Excision of a portion of the sac is considered more hazardous, and less likely to yield a favorable result than incision. This mode of treatment is preferred by Isaac Baker Brown in his work on "Some Diseases of Women admitting of Surgical Treatment," yet it did not originate with him, as is implied by our author, having been proposed, at least, by Blundell. We quote his remarks, which are expressed with not a little tartness, and with no excess of respect for his English professional brethren.

> "Although we will not insist that the operation in itself is a very dangerous one, and upon this point the opposed statements of the well-known little-reliable English physicians cannot lead us astray, even if we place the danger entirely out of view, yet we would call to mind the fact that the walls of large cysts are often very vascular, and that a wound of these vessels would necessarily cause dangerous hemorrhage into the cavity of the abdomen or of the cyst. If Brown

> maintains that his mode of operating is only to be followed where the walls of the cyst are not vascular, he has not answered the question how the greater or less vascularity of the cyst is to be ascertained before opening the abdomen. It is also to be considered that excision of a portion of the wall of the cyst will cause violent inflammation of the same; and, if this is the case, it cannot be guaranteed that the resulting exudation will not be ichorous or purulent, thereby inevitably causing violent peritonitis; in short, so long as favorable results of this operation are not reported by more reliable authority, so long we shall take care not to follow Baker Brown's proposed plan."

To those acquainted with Mr. Brown's work it will be evident that Scanzoni has not done him justice, since Mr. Brown recommends an incision through the abdomen long enough to enable the operator to distinguish the number and position of the vessels of the sac, and directs the part to be removed in such a manner as not to interfere with them.

The remaining operation for the cure of ovarian disease to be noticed here, and the most important, is extirpation—one which has most ardent friends and bitter enemies. There is a natural disinclination to attempt an operation of such magnitude and danger, unless to rescue a patient from immediate peril, and her danger from the operation is increased by delaying it until it is a matter of necessity. On the other hand, the operation has been successful, and in a respectable proportion of cases; indeed, a late writer claims that few, if any, of the great operations of surgery can show so large a percentage of successful results; "nor, when successful, can they boast of that great and peculiar feature which belongs to ovariotomy, viz., that, with few exceptions, whenever the patient recovers, her recovery is complete and permanent."* It is not our province here to give the arguments for and against ovariotomy. With our present knowledge, it is impossible to decide the superiority of any of the different modes of treatment, and until we shall have collected the experience necessary to decide the questions at issue upon extirpation, let us not degenerate into partisans, however strong the arguments upon either side may appear.

Before giving the views of the author upon the operation, we quote the following sketch of its history. After stating that Schlencher was the first who proposed it—at what date, however, is not mentioned—he says it was considered by Tozzetti, 1752; Willius, 1734; Peyer, 1751; and by De Haen (*de ratio medendi*), who judged that it was dangerous even to think the operation possible! and by Van Swieten, who was of opinion that a favorable result might be obtained in some cases.

> "So far as we know, C. Aumonier, of Rouen, in 1781, was the first who performed this operation; it was upon a patient twenty-two years of age, and was successful. He was followed by Eph. McDowell, in America, who, in the year

---

* Rigby, Constitutional Treatment of Female Diseases, p. 249.

1809, also operated most successfully, and afterwards repeated it several times. From this time on, extirpation of the diseased ovary gained friends, and it was principally English and American surgeons who recommended it, and sometimes successfully performed it. The French surgeons were less favorable to it, and even in 1847 Velpeau (Gaz. des Hop. No. 99) pronounced these operations to be the result of foolhardiness; that they should be opposed with all our influence, because they were the offspring of folly, and that it was to the honor of French surgery that such proceedings were not countenanced by it. In Germany it was principally Kiwisch who forwarded the operation by word and deed, and it was principally his authority which influenced other surgeons of his country to follow his example, so that within the last two decennial periods the Fatherland has seen numerous cures as the result of this operation."

Rigby gives the honor of the first operation to Jefferson, of Sussex, performed in 1836! yet Lizars reported a case as early as 1825!

We append our author's views upon the operation, which need no introduction and are not likely to be misunderstood:

"We hold the extirpation of ovarian tumors as a surgical adventure, which, when it succeeds, must be thankfully glorified by the patient and gaped at by the public. It is an adventure, because it is never possible for the surgeon, according to experience, to indicate the result of the operation with that amount of probability which he can that of other capital surgical operations; for experience has shown that operations of this kind, undertaken under the most favorable circumstances, performed by the most skilful hand, and without the complication of accidents, have resulted in the death of the patient a few days or hours after its completion, or even during its performance. Even if the published statistics of the operation do not speak for its absolute fatality, or even if they prove a not inconsiderable number of cures, yet they can in no wise induce us to favor a proceeding which was rapidly followed by death, in 5 cases out of 6, operated on by a Langenbeck, and in 4 cases out of 5, by a Kiwisch; for if we allow that of these 11 patients 2 were truly healed, yet no one can deny that the lives of the remaining 9 were considerably shortened; and if men so renowned as these have to lament such an extremely unfavorable result of their operations, will not the courage of the less experienced sink? But if it is replied, that the results of ovariotomy have heretofore been so unfavorable because the operation is generally only undertaken when the tumor has attained a considerable size and adhesions have taken place between it and neighboring parts, when the powers of the patient have given way, and the general organism has been involved; if this be replied, then, we would ask, what considerate, honest-minded surgeon would undertake an operation so extremely dangerous to life at a time when the tumor is yet so small as to occasion the patient inconsiderable, if any, inconvenience or suffering; at a time when it is impossible for the surgeon to decide whether the disease will not remain stationary, or only make such gradual progress as to spare the life of the patient many long years? Then we are compelled to operate only under the above-mentioned unfavorable circumstances, and thus have to expect in all probability an unfavorable result, unless the pressing entreaties of the patient induce us to proceed to the attempt at an earlier period of the disease. And some writers have, therefore, expressed the opinion that a surgeon, even if he is not inclined to favor ovariotomy, is justified in performing it when the patient overwhelms him with entreaties, and, in spite of all representations, remains fixed in the resolution to die rather than bear the sufferings of her disease any longer. We found ourselves once in such a situation, and gave way to the desires of the patient; but we are firmly resolved never to do it in the future; for if it is not to be denied that every person has the right, to a certain extent, to decide upon his own body, it is also certain that to this right bounds are set, and it must be called foolhardiness for a patient, in order to escape the pains of her disease, to allow an operation upon herself, which with the greatest probability will end in death. But in this the patient may be partly excused, for her judgment is influenced by the pains endured, but the surgeon is not to be excused who lends himself as the instrument even of an involuntary self-murderer.

"From the foregoing, it will be seen that we cannot speak in favor of ovariotomy, and we renounce the glory of having successfully performed such an operation, until our above-expressed opinion upon its almost absolute fatality has received a convincing statistical refutation."

The fifth division of the work treats of the Pathology and Therapeutics of Diseases of the Vagina. We confess we turned to the chapter upon vaginal fistulæ with a great deal of interest, and suffered not a little disappointment upon reading it. The bibliography not only contains no American work, but also none in the English language,—a translation of Chas. Bell's Principles of Surgery is the only Anglo-Saxon authority mentioned! We do not think we had any right to expect that the brilliant operation of Dr. Bozeman, published in this country in May, should be known in Germany at the time the author's work went to press, in the fall of the same year, but there is just cause of complaint in the omission of the name of Dr. Sims, whose operation was one of the most decided steps in advance ever made in this branch of the healing art, and which has now been so long before the profession as to leave no excuse for a writer occupying the station that Scanzoni does. Herein we think we find just cause for congratulation on the extent to which the profession in this country is informed upon every new mode of treatment or new operation which may arise in any part of the world, and we do not think a similar instance to that mentioned above can be found in our whole country, however little the labors of the profession here may be esteemed in transatlantic countries.

The operation preferred by the author for vesico-vaginal fistula is Jobert's, with some improvements introduced by Simon. He records two cases which he has cured by the application of caustics; but we judge that his experience with operations of this kind has not been extensive. This division contains a long and interesting chapter upon catarrhal inflammation of the vagina, in which is found everything relating to leucorrhœa not included in the division upon diseases of the uterus.

The Pathology and Diseases of the External Organs of Generation forms the sixth division of the work. The subject of rupture of the perineum need alone detain us here, although all the malformations, and retarded and excessive development of each separate portion, are duly treated of. Believing in the good old maxim about the relative value of prevention and cure, the author recommends a mode of proceeding to avert this accident in which, we dare affirm, he stands alone in the world, and presents a striking instance of the extent to which men of high standing in the profession may depart, upon some point, from the plainest dictations of pathology, to say nothing of sound sense:

> "While we refer to treatises upon obstetrics for the general prevention of rupture of the perineum, we will here only briefly mention, that we know of no surer mode of avoiding this accident than the artificial enlargement of the vulva, which is to be effected by two incisions, from four to five lines deep, made in its posterior circumference, at the moment when the presenting part of the child is about to be expelled through it,—a proceeding which we have put in force more than a hundred times [mehr als hundertfältig erprobt], and which is fully described in our work on obstetrics."

Undoubtedly, a most *sure* mode of prevention! but if the author has committed this piece of interference more than a hundred times, how many times has it been unnecessarily performed! It is with the deepest regret we record so great a blemish in a work otherwise of great practical value.

For the treatment of recent cases of rupture of the perineum the author recommends the immediate application of sutures, perfect cleanliness, and the lateral position of the patient; for old-standing cases he lauds highly the plan of Mr. Brown.

The space we have already occupied precludes any notice of the seventh and last division of the work, on the Diseases and Pathology of the Mammary Gland; any remarks upon these subjects are the less necessary here, as they have been fully treated in a review of Velpeau's work, contained in a late number of this journal. We need only say that this part of the book compares favorably with what precedes it.

We bring our notice of Scanzoni's work to a close. In presenting it to our readers, we have indulged more in extracts than we should have done had it been in our own language and accessible to all, being desirous of affording an opportunity to judge of its merits, although we believe the fame of the author more deservedly rests on his work on Obstetrics. Germany has a rich treasure of medical literature; the science is there cultivated with ardor; the profession there contains some of the most illustrious names in the annals of science; and we congratulate ourselves upon the opportunity of bringing before the notice of our readers one of the works of a writer who occupies a high position in a land where sound education and long experience are the necessary qualifications of an author.

ART. III.—*Clinical Lectures on Certain Diseases of the Urinary Organs, and on Dropsies.* By ROBERT BENTLEY TODD, M.D., F.R.S., Physician to King's College Hospital. London: John Churchill. Reprinted by Blanchard & Lea. 8vo. pp. 283. 1857.

To notice the productions of able medical authors is always a pleasant task; the more pleasant, if to the reputation for ability they add that of candid and indefatigable observers. The volume before us emanates from one whose contributions to science for many years back, have attested both ability and conscientious industry of so high an order, as to render the perusal of anything coming from him, on a subject so difficult clearly to expound as clinical medicine, a source of positive enjoyment.

The first collection of these lectures treated of the diseases of the nervous system. This second series is intended to elucidate dropsies and certain diseases of the urinary organs, and is appropriately inscribed to William Bowman, F.R.S., a name closely connected with their anatomy, and more than once before associated, for the good of science, to that of Robert Bentley Todd.

We trust sincerely that these volumes will be continued. There are many, too many works on the practice of medicine, with mere general descriptions, and far too few in which the symptoms and the treatment of individual cases are discussed. We need more detailed clinical reports in our works on practical medicine. A few such volumes as Andral's Clinic, Graves's Clinical Lectures, Watson's Lectures, made up or illustrated, as they are, by cases well observed and as well described, are of more advantage to the profession and tend more to the advance of our knowledge of diseases than hundreds of text-books containing only general statements. The latter are undoubtedly instructive; but the former are instructive too, more interesting, more forcible; and furnish, in addition, valuable matter, which, stored away now, will gradually accumulate, to be used by future investigators, for the better understanding of present, and the elaboration of new principles in our art.

The first lecture of Dr. Todd is devoted to the subject of *hæmaturia.* This, it is well stated, is not a disease in itself, but a mere symptom, a mere occurrence of blood in the urine. Urine containing blood is either of a light red, or, as is more general, of a dark smoky color, and yields a deposit by heat and nitric acid. The microscope may save the necessity of subjecting it to chemical test, for it determines the presence of blood by exhibiting the blood-corpuscles.

The presence of blood being settled, it becomes of importance to ascertain its source. The hemorrhage may come from the kidney, from the bladder, or from parts adjacent to the urinary apparatus. Nothing but a careful attention to all the symptoms will indicate the organ at fault. If from the bladder, local pain on pressure and more or less difficulty in micturition occur; the contents voided are clear at first; the last portion is red and apt to contain clots. If the kidney be the source whence the blood is derived, there will be pain in the lumbar region, and usually an absence of clots from the urine, the blood being uniformly diffused through the secretion. The microscope again may aid us, to some extent, in a differential diagnosis. In hæmaturia of renal origin, globular epithelium and casts of the renal tubes imbedding blood-corpuscles, and epithelial cells are met with; yet these are not always present, as the first case reported proves.

Hæmaturia may be associated with inflammation of the kidney, with scarlatinal dropsy, with rheumatism, with gout, with renal calculi, with impoverished state of the blood, inflammation of the ureter, and with other morbid conditions, which Dr. Todd fully notices in the first two lectures.

The cause of the hemorrhage is in several cases explained by what we shall, for want of a better term, call the "eliminative" theory. To those of our readers who have perused the recently published works on the diseases of the kidney, this view will be familiar; to those who are unacquainted with it, we would say, that it is assumed that in certain diseases, amongst which scarlatina, gout, and rheumatism hold the foremost rank, morbid material has to be ejected from the system. To effect this, a heavy task is imposed upon the glandular structures, and especially upon the kidneys: they become thus irritated, engorged, inflamed, their delicate vessels rupture, and blood is mixed with their proper secretion. It is not for us here to discuss this view of elimination, which is, after all, but the revival, in a more scientific form, of the old doctrine of peccant humors, applied to explain the morbid state of individual organs. Whether we adopt it or not, it is certain that in some diseases in which it may be presumed that a morbid material is retained in the blood, as where the action of the skin is impeded by cold and exposure, or in scarlet fever, an inflamed or irritated state of kidney follows. This again leads to acute dropsy and to bloody urine.

The treatment of hæmaturia thus caused, consists in relieving the active irritation of the kidney by remedies addressed to it, in restoring the full action of the skin, and in ridding the system of the amount of water accumulated in its cavities and areolar tissues. Cupping the kidney, hot baths, and purgatives, would seem to be indicated, and are, for the most part, resorted to. The former remedy does not always meet with hearty approval.

"With the hope of relieving the active congestion of the kidney, our patient was cupped over the loins, and several ounces of blood taken away. I cannot say that he derived any benefit from this; and, I must confess, that in the treatment of similar cases I have been more frequently disappointed than satisfied by topical bloodletting, when the congestion of the kidney was active. I suspect that as long as the morbid matter is undergoing elimination through the kidney, and keeping up irritation of the gland, local bloodletting does little or no good. If a particle of dust gets into the eye, it excites conjunctival inflammation; you may leech the eye, day after day, until your patient is blanched; yet active congestion of the conjunctiva will continue; but remove the particle of dust, and the congestion will quickly subside. So with the kidney;—you will do more to relieve the active congestion of which it is the seat, by opening new channels for the elimination of morbid matter, restoring and promoting the action of the skin, and increasing that of the bowels, than by the withdrawal of blood. But when these evacuations have been some time in action, and the congestion of the kidney has assumed a passive character, then the removal of blood by cupping, or by leeching, will often succeed in relieving the congestion."

After the hyperæmic state of kidney has subsided, and as the kidney is resuming its secreting action, Dr. Todd recommends the bitartrate of potassa in diuretic doses. Its exact action does not seem clear to him, yet although he advances a theory to justify its administration, he adds, in a spirit of true philosophy, that "experience tells so much in its favor," that we should not be justified in abstaining from employing it, merely on account of an hypothesis, which may or may not be well founded.

When the hemorrhage has been of long duration, even if owing to inflammatory action at the onset, the blood becomes poor, and the nutrition of the patient falls off. (Cases III and V.) Under such circumstances, the hemorrhage becomes passive, and is kept up, Dr. Todd thinks, by a rupture of the ill-nourished and weakened vessels. Antiphlogistic and diuretic remedies must then be abandoned, and stimulants, astringents, and nutritive diet take their place. Port wine and gallic acid are especially useful.

We have thus seen that hæmaturia is a frequent symptom of inflammatory engorgement of the kidney. This may itself again be the result of exposure to cold, of scarlet fever, or of other states, in which a poisonous substance is presumed to be retained in the blood. The seat of the disease is in the uriniferous tubes. Dr. Todd describes a second form of inflammation, with which bloody urine may be associated. He calls it phlegmonoid. "It is like the phlegmonoid inflammation elsewhere," passes rapidly into suppuration and sloughing, destroys the tissues it involves, and leaves pus-secreting cavities, which cause pus, mixed with blood, or succeeding this, to be found in the urine. It may be occasioned by a renal calculus, by blows on the kidney, or may occur in the subcutaneous areolar tissue in an inexplicable way, and much as a furuncle or carbuncle is formed. It generally attacks only one kidney. We find tenderness on deep pressure, but the attack is not traceable to any special exposure, nor is it associated with dropsy. The fever accompanying phlegmonoid nephritis is of the intermittent or remittent type. If, as is stated, its main character is, that it passes rapidly into the suppurative process, we confess we do not see in this any very strong analogy to a boil on the skin, nor indeed does it appear why the term phlegmonoid nephritis should be preferable to the ordinary one, of acute suppurative nephritis.

Hæmaturia is very commonly (Dr. Todd says most commonly) the result of the irritation of *renal calculi.* There is pain in such cases referred to the kidney and the course of the ureter. Dr. Todd cites, however, some interesting cases to prove that pain may exist in these regions, and other symptoms of renal calculi be met with, without the presence of these bodies, the real lesion being inflammation of the ureter or malignant disease of the kidney.

Several lectures are devoted to those diseases which are associated with *an albuminous condition of the urine and with dropsy.* Since the great discovery of the celebrated physician, who pointed out the connection between this group of symptoms with morbid changes in the kidney, that organ has been repeatedly examined with care, to ascertain exact lesions and their causes, but alas! although much has been done, more remains undone. Dr. Bright originally admitted three stages of the disease which bears his name; Rayer soon more than doubled the number. Of the more recent observers, Frerichs delineates three stages; on the other hand, some pathologists, at the head of whom we find Johnson and the author of the work before us, multiply the honor due to Richard Bright, by denying the *unity* of the affection he described, and contending for its being a *group* of diseases, including, not several stages of one malady, but affections which it is proper to disconnect and consider apart, as they have; but this feature, invariably, in common,—the existence of more or less albumen in the urine.

It is thus that we have the acute and chronic desquamative nephritis, the fatty kidney, the waxy kidney, the gouty kidney, and so on. These, studied in a clinical point of view, Dr. Todd tells us, present themselves in two classes: one, which comprises the cases in which the dropsy is decided, and occurs as an early symptom; and the second, in which it is variable and usually slight.

The first form is the well-known *acute* dropsy, the result of exposure to wet and to cold, or observed as one of the many ills that render an attack of scarlet fever a source of such uneasiness to the practitioner. When dropsy takes place under such circumstances, the kidney becomes enlarged, sheds its epithelium, which is seen on the fibrinous casts of the tubules, along with blood-corpuscles in the heavy, dingy urine voided by the patient.

This is the disease called by some acute Bright's disease, by others acute desquamative nephritis. The dropsy after scarlet fever may be, perhaps, best taken as its type. The symptoms are a dry, harsh, rough skin, abundant dropsy, and dense, highly albuminous urine. The effusion commences mostly in the eyelids and face, and then spreads over the surface of the body, involving often some of the serous membranes. The internal cavities may, however, be the first to suffer, as proved by the interesting case of Rilliet,* in which a boy of five years of age was seized with a double hydrothorax after scarlet fever. The urine was bloody and highly albuminous; yet it was only after the effusion in the chest was gradually absorbed, that the face and limbs commenced to swell.

The dropsy appears generally in the third week after the eruption of scarlet fever; it may appear earlier, it may not occur until eight weeks after desquamation. Slight cases are more liable to it than those in which the eruption has been very extended and the desquamation complete. In its train it brings impoverished blood, a tendency to serous inflammation, and to uræmic poisoning.

Dr. Todd conveniently accounts for the impoverished state of the blood by the poison of scarlet fever interfering with the proper development of the red particles, and pursuing this idea further, argues that the capillary circulation is disarranged by the presence of the poison, thus still more favoring effusion. The blood is filled with water; the kidneys, irritated, are unable to excrete the fluid; it must find a vent, and permeates the areolar tissues of the body, mainly those of the skin, on account of the determination of blood to it, caused by its irritated condition.

The occurrence of dropsy after scarlet fever is fraught with danger, excepting in those cases, in some epidemics, and in some countries the most usual, in which dropsy exists without albuminous urine. To this class belonged those sixty cases spoken of by Dr. Phillips, of Berlin, in all of which recovery took place. Of the general prognosis in England, and we suppose it is about the same in this country, we may judge from the cases collected by Tripe.† In 11,566 fatal cases of scarlatina, occurring in the five years, 1848 to 1852, were included 1600 from dropsy, being in the ratio of 13·8 deaths from dropsy in each hundred from scarlatina. It is presumable that an albuminous state of the urine existed in all these cases. Yet even under such circumstances recoveries, we are told by Dr. Todd, are, if the patient be treated with care, not unusual; nor does he believe that patients thus affected preserve any special liability to renal disease, in other words, he withholds his sanction from the view, that the acute desquamative nephritis of scarlet fever predisposes or ends in the chronic forms of Bright's disease. The dropsy, if the case is to terminate favorably, disappears gradually or suddenly; if an unfavorable termination is to occur, it is apt to remain stationary, or to increase. The immediate cause of the fatal result may be the extreme impoverishment of the blood above alluded to, or pulmonary œdema complicated with pericarditis, or extensive inflammation of other serous membranes. Uræmic poisoning, again, may occasion the most frightful convulsions, or a low comatose condition. Several interesting cases of this kind are reported in Lectures VI and VII.

---

* Rilliet & Barthez, p. 175, vol. ii.

† Scarlatinal Dropsy, by John W. Tripe, M. D., Brit. and For. Med. Chirurg. Review, 1854.

The treatment in cases of acute dropsy is obvious. Spare and soothe the kidney; keep up the action of the skin and bowels. Warm baths, purgatives, and mild diuretics, such as the liquor ammoniæ acetatis, the bitartrate of potassa, diluents, rest, are remedies to fulfil these indications. In cases complicated with bronchitis, antimony is very useful. The diet must be nutritious and easy of digestion. Wine may be administered to support the patient's strength. Mercurials are too lowering; they are, in all cases, to be guarded against; so are irritating diuretics, as squills or cantharides. Bloodletting, especially general, requires great caution.

Dropsy, accompanied by the presence of albumen in the urine, may occur in a gradual way. This *chronic* Bright's disease is spoken of by Dr. Todd under different names in his second group of cases. The dropsy is usually slight. The urine contains albumen in varying quantity; and with the varying quantity of this substance, the specific gravity falls to 1010 or rises to 1035. These different conditions may be found associated with at least two different pathological states. The kidneys are larger, or else they are smaller and harder than the normal organs. Many who perfectly admit these pathological differences, see in them but successive stages of the same morbid state. Not so Dr. Todd. He not only separates them pathologically, but also clinically. Nay, further, going almost to the extent of that champion for subdivision, Dr. Johnson, he makes mention, under chronic enlargement, of two kinds "sufficiently distinct to be diagnosed;" one being that which first attracted the notice of Dr. Bright, the large mottled kidney, the peculiar features of which the discoveries of late years have shown to depend upon the deposition of fatty matter in the epithelium of the uriniferous tubes; the second, when the enlargement is due to the deposit of a waxy-looking fibrinous material, occasioned by what has been termed waxy degeneration.

The *fatty* kidney occasions most of those symptoms which we are in the habit of attributing to chronic Bright's disease. In it we have the pale, puffed face; the obstinate and increasing dropsy; the bronchial irritation and dyspnœa; frequency of micturition, and a large deposit of albumen induced by heat and nitric acid. The sediment in the urine exhibits many fatty casts, fat cells, and free oil. Now, in the other form of the enlarged kidney, or the *waxy* disease, there is no dropsy, or it is trifling in amount; the face is not swollen, but sallow and thin. Emaciation is, indeed, for the most part, a marked symptom. The urine contains much albumen, but only a few casts, which are pale and transparent. These cases usually occur with similar waxy enlargement of the liver and spleen. They may be of long duration, and are to be regarded, according to the author we are noticing, as the result of a general cachexia, allied, perhaps, to scrofula.

Exactly the opposite, in an anatomical point of view, and presenting, it is here stated, marked clinical differences, is the small, dense, contracted kidney. From its very frequent occurrence in persons of a gouty diathesis, Dr. Todd proposes to call it the *gouty* kidney. The symptoms by which this contracted or gouty kidney can be recognized, are, in the main, those of the other form of chronic renal disease. But as the disease advances, a greater tendency to coma, and to convulsions, exists, on account of the kidneys losing their power to eliminate urea and other obnoxious matter. The blood becomes thin and impoverished, and charged with urinary constituents. Epistaxis is frequent. The urine is pale, and of a low specific gravity; its quantity is not diminished. It contains but little albumen, many large granular casts of the uriniferous tubules, altered epithelium, and a few waxy casts and fat-cells. Dropsy is present, although it is not as abundant as in the fatty kidney; but more so than in the waxy disease. The face is sallow. The patient is, according to Dr. Todd, usually of a gouty diathesis; in his joints there may be proofs left of the ravages of the disease. The liver is apt to suffer and become contracted; the heart diseased. In cases presenting these complications, more dropsy, especially in the peritoneum and lower extremities, may exist. Such is the outline of symptoms we have been enabled to group together from the cases of "gouty" kidney mentioned in these clinical lectures. It will be observed that they vary somewhat from those of the other form of chronic renal disease, which give rise to the enlarged kidney. The manner in which the contracted kidney is produced, is stated to be by the continued irritation of the poison of gout, or one akin to it, which, by creating a highly disturbed state of nutrition, leads to atrophy; that it is the result of inflammation is denied.

Now, the relation to the gouty diathesis seems to us to have been overrated. In many countries, rheumatism is not very frequent, and gout extremely rare; yet the writers of these countries do not mention cases of contracted kidney as anything so much rarer than the other pathological states of renal disease. Seeing so many people, as does Dr. Todd in the city he lives in, afflicted with this strange and singularly painful malady, it is, perhaps, not surprising that his mind should have dwelt much on its varying phenomena, and have sought to bring organic lesions and pathological changes in connection with it. That such is the case may be judged from a sentence in the twelfth of these collected lectures: "A knowledge of the real nature of gout, and of its kindred malady, rheumatism, is, in my opinion, at the very foundation of all sound pathology." Is the pathology of inflammation, of tubercle, of cancer, not as important? Are gout and rheumatism at their foundation?

With regard further to the production of these contracted kidneys, mainly by a process of atrophy, and not as the result of inflammation, it strikes us as strange that the elimination of one poison, as of scarlet fever, should occasion congestion and enlargement, and that of gout or a diathesis akin to it invariably a dwindling without inflammation. But from Dr. Todd's own statement in the very first case described in the book, it follows that an actively engorged state of the kidney may occur in the elimination of the rheumatic poison. If in rheumatism, why not in gout? stated all through the book as the same diathesis. If a state of active irritation with hæmaturia from rheumatism, why not a state of inflammation, with gradual change in the effused lymph from gout? Or are the boundaries between active hyperæmia and inflammation so distinct, that in an organ where one occurs, the other may not be presumed to follow?

The gouty or contracted kidney is the last form of renal disease, connected with dropsies, mentioned. We subjoin a tabular form for their diagnosis, enlarged from that printed at the end of the third lecture. We have added the differences of the state of kidney, and the main symptoms and diagnostic facts, as we have been following them out.

A.

Cases in which dropsy is urgent and acute.

Acute dropsy from exposure. Dropsy after scarlet fever.	Urine deep colored, of high specific gravity, containing much albumen, often blood; also fibrin-casts, covered with epithelium.	Kidney enlarged and vascular, shedding its epithelium.

B.

Cases in which dropsy is variable in amount, chronic, and may be absent.

Fatty disease. (Bright's kidney.)	Persistent and obstinate dropsy, coming on gradually; face pale and puffed.	Urine contains much albumen, fatty casts, fat cells, free oil. Sp. gr. rather high, usually between 1015, 1030, rarely 1010. Quantity moderate or diminished.	Kidney in a state of chronic enlargement, mottled, fatty.

Waxy disease.	Dropsy trifling or entirely absent, great emaciation, great sallowness of face. Liver and spleen enlarged.	Urine contains much albumen, but only a few casts, which are pale and transparent. Sp. gr. varying, usually above 1010.	Kidney enlarged, smooth and waxy-looking.
Chronic nephritis, or chronic wasting of kidney. (Gouty kidney.)	Dropsy moderate, less than in fatty kidney. Face sallow, yet not so much so as in the waxy disease. Retention of urea, tendency to coma and to convulsions, impoverished blood. Liver may be cirrhosed. Gouty diathesis.	Urine more copious than in health, yet extremely small amount of albumen. Large granular casts, altered epithelium, a little oil. Sp. gr. very low, rarely above 1010, much oftener below.	Kidney small, dense, and contracted.

Most of the same indications arise in the treatment of chronic renal dropsies, as in the acute, hence the same remedies are more or less used. The depraved state of the blood, and the tendency to retention of poisonous ingredients in the circulating fluid, must be constantly and especially borne in mind, and agents employed for their relief. Cerebral symptoms are best treated by counter irritations to the back of the neck or to the scalp, by free purging, and by using mild diuretics to promote the action of the kidney. Amongst the diuretics, Dr. Todd mentions favorably the benzoate of ammonia. We do not find in any of his cases of uræmia, that he has made use of the mineral acids, so strongly recommended by Frerichs.

Dropsies are far from being always associated with renal disease. Derangements of the circulation of any part; depression of its nervous power and nutrition, as in paralytic limbs; pressure on large venous trunks; a watery state of the blood, with an enfeebled and inactive capillary circulation, or the reverse one, gorged by inflammatory irritation, may all be productive of effusion of fluid.

To the dropsies from deranged circulation belongs one of the most troublesome of all dropsies, that connected with *disease of the heart.* Hypertrophy or dilatation, in all their different forms, with or without valvular disease, may be accompanied by dropsy. Of these conditions, dilatation of the right side of the heart, with disease of the tricuspid orifice permitting regurgitation, is the one most productive of effusions. There is then very difficult, at times spasmodic breathing, palpitation of the heart, congestion of the whole venous system, and regurgitation into the jugular vein, occasioning pulsation, or, at least, keeping the vessel full, even below a point pressed on with the finger. The dropsy commences in the extremities; anæmia is not unusually superadded,—a condition which still further favors the tendency to watery exudation. Under these circumstances, it is easy to see how dropsy is produced; not so easy is it where the valves on the left side are affected. Dr. Todd solves the difficulty by assuming that in *all* cases dilatation of the right side of the heart must necessarily occur before dropsy can be produced.

When dropsy occurs in disease of the heart, it is always a grave symptom; and yields but rarely to diuretics, or even to punctures or incisions employed for its relief. Especially is it grave, if accompanied by signs of disease of the kidney. The combination of lesions of these two organs is, unfortunately, a frequent clinical phenomenon. In an instructive paper published by Bamberger (Virchow's Archiv. Jan. 1857), the heart was found to be affected twenty-five times in forty cases of Bright's disease. The different parts, the endocardium, the pericardium, the muscles themselves, were all diseased in various degrees; but by far the most constant and marked pathological appearance was hypertrophy and dilatation, which occurred in nineteen cases, and in thirteen out of the nineteen on both sides of the heart.

Another great viscus, *the liver*, may be diseased when kidney and heart are affected, and thus add to the dropsy. The form of dropsy associated with alterations in the liver is ascites, or dropsy of the peritoneum. All chronic diseases of the liver can lead to ascites; but the one which especially does so is the granular liver, or cirrhosis,—the liver of persons of intemperate habits. Most of the continental writers, and, if we mistake not, Dr. Budd does the same, describe a state of enlargement of the liver as preceding the small, hard, contracted liver of cirrhosis. Dr. Todd suggests that these two states are different diseases, similar to the enlarged and contracted kidney, both producing, however, the same effect,—dropsy; because in both there is thickening of the capsule of Glisson, which, by retarding the portal circulation, furnishes a condition most favorable to effusion. One of the cases he cites, in which dropsy with enlargement and induration of the liver existed, is interesting on account of the good therapeutic results obtained. The use of frictions with strong mercurial ointment and equal parts of compound iodine ointment, of pressure on the abdomen by means of a bandage, and the internal administration of digitalis, squills, and mercury, removed the effusion completely in the space of seven weeks. In another case of ascites, not however connected with disease of the liver, but dependent probably on subacute peritonitis, a similar plan of treatment by mercurializing the patient, employing mercurial frictions, and diuretics, resulted in discharging, on the 2d of June, without any trace of swelling, a patient, admitted May 12th, measuring thirty-three inches round at the level of the umbilicus. Amongst the most useful diuretics, Dr. Todd mentions the bitartrate of potassa, lemon-juice, and the benzoate of ammonia, in doses from five to fifteen grains dissolved in water.

Many, however, are the cases of ascites, in which no remedies seem to avail. The dropsy increases, and the patient dies worn out. There is yet another termination, the rarity of which is much to be regretted. Nature may step in, and effect spontaneously what art has been vainly striving to effect. Medical literature furnishes a number of such unexpected and sudden terminations of ascites. We need hardly cite the well-known case of Dr. Graves, in which the patient passed off a dropsy of thirteen years standing, by means of her kidneys, in about a fortnight, causing the integuments of the abdomen, relieved from their previous enormous distension, to hang pendulous. M. Mondière (Journal l'Experience, tom. vii) has placed one as singular on record. Thirty pints were excreted from the kidney in seventy-two hours, and the ascites vanished. Dropsies have as suddenly disappeared by vomiting, by excessive discharges from the bowels, or by profuse sweating.

If medical means fail, and nature does not come to the relief, the operation of tapping alone affords a way of getting rid of the fluid; but not without danger, and not without a very strong probability of the effusion returning. Our author believes that tapping may be advised with better prospects of success, where the superficial veins are dilated and where the dropsy is connected with enlargement of the liver, than when it is with contraction. He directs the operation to be performed whilst the patient is under the effect of opium, and in a *horizontal* position, thus avoiding the tendency to syncope, and dispensing with a compressing bandage. Several cases are mentioned where tapping has resulted in an ultimate cure, after the operation had been once or several times resorted to. That there are scarcely any limits to its performance, but that of death, we know from the inscription engraved on the monument of good old Dame Page, handed down to us by Dr. Mead:

"Here lies Dame Mary Page,
Relict of Sir Gregory Page, Bart.,
She departed this life, March 4th, 1728,
In the 56th year of her age.
In 67 months she was tapped 66 times.
Had taken away 240 gallons of water," &c.

The four last of these clinical lectures are devoted to the appearance of pus in the urine, to gout in the bladder, and to a consideration of gout in general. Urine containing *pus* is muddy, when first passed. On standing, a whitish deposit falls to the bottom of the vessel, which shaking up with liquor potassa gelatinizes; treated with acids it becomes slightly more dense. In this fact we have a valuable differential test for pus. Phosphates also furnish a whitish deposit, but they are dissolved in acids; mucus is nearly soluble in acetic acid. The sources of pus in the urine are many. It may come from the kidney, from the ureter, from the bladder, from the urethra, or, in females, from the vagina; or, it may be derived from abscesses opening into the urinary passages. The character of the pus and of the urine does not, unfortunately, aid us much in determining its source. If from an irritated or diseased state of mucous membrane of the bladder, it is apt to contain triple phosphates. Pus is most frequently derived from this viscus; the irritation of retained urine, of a stone, simple cystitis, or the morbid state of the mucous membrane in gouty diathesis, will all produce it. Dr. Todd cites several interesting cases in which the symptoms pointed to gouty inflammation of the bladder. In one patient (Case XLIV), who was liable to attacks of shifting gout, the disease recurred annually, accompanied with pain in the left lumbar region, and pain in the bladder more severe than that in the back and antecedent to it. The urine was of a low specific gravity, alkaline, and contained blood and pus. In many cases, Dr. Todd remarks, this state of urine exists, with an impairment of the power of retaining urine, and is decidedly an inflammatory condition; in others, gout attacking the bladder may only give rise to great pain and distress after indiscretions in diet, speedily relieved by appropriate treatment; or, again, there may be incontinence of urine, the urine being pale and acid, or else an inability to pass water with distension of the bladder may be brought on, causing great suffering. Such are the four different ways in which gout may affect the bladder. The diagnosis is determined by the suddenness of the attack, the gouty diathesis, and the absence of other causes, such as renal or vesical calculi, to account for the symptoms.

In the asthenic and shifting gout there is a much greater liability to these attacks of internal organs. Even sthenic gout, Dr. Todd believes, is apt to attack the bladder, stomach, or heart, if treated by depressing means. The following well-told case is cited in support of this view:

> "A friend of mine, of very robust make, but overworked in laborious professional employment, had a severe attack of gout in one foot. He had previously suffered from it on many occasions. Being much in request in his profession, he was impatient to get well, and, contrary to his better judgment, allowed a number of leeches to be applied to the gouty foot. The leech-bites bled freely, and next day he found that the active gout had quitted that foot, leaving it very weak, and had settled in the other. This latter swelled up quickly, and so intense was

the inflammation that a neighboring surgeon, thinking that matter had formed, made an incision, which bled freely. On the following day, both feet were free from gout, but the bladder had become irritable, micturition was painful and frequent, and the urine contained bloody mucus. The vesical irritation yielded in a few days, and now the action of the heart became frightfully irregular and intermittent; and, notwithstanding that the gout was on more than one occasion successfully invited to the extremities, it was many months before the heart's action was restored in strength and rhythm."

The treatment in cases of gout of the bladder consists in free counter irritation by means of mustard, by ammonia, and in relieving pain by opiate injections; the action of the skin and bowels must be kept up, and, provided the urine be acid, alkalies will be found of service. In cases of internal gout affecting other organs, as the stomach or bronchial tubes, Dr. Todd recommends the same treatment by free counter-irritation; in gouty states of the stomach, stimulants, as brandy, ammonia, must be freely and fearlessly administered. Where the joints are much affected, a *small* blister is placed over them, and internally alkalies are prescribed. The use of leeches is deprecated, as a matter of experience; nor does the internal administration of that much-vaunted, much-employed, and, on the other hand, much-abused remedy, *colchicum*, find an advocate in the distinguished physician of King's College Hospital.

ART. IV.—*Memorias sobre la Topografia Medica de la Habana y sus Alrededores, y sobre el Estudio Fisico et Moral de los Colonos Asiaticos.* Por el DOCTOR DON MARCIAL DUPIERRIS, &c. &c. Habana. P—s 106. 8vo. 1857.

Memoirs on the Medical Topography of Havana and its Environs, and on the Study, Morally and Physically, of the Asiatic Colonists, &c. By DR. MARCIAL DUPIERRIS. Havana. 1857.

THESE memoirs, as we learn from the author's advertisement, form part of an unpublished work which he wrote in 1851, in compliance with an order from the Director of the Board of Health of the Royal Navy. Her Majesty the Queen, in consequence of the Report of the Royal Academy of Medicine and Surgery of Madrid, ordered its publication, the expense to be defrayed out of the funds granted for public instruction. But it is one thing to issue a royal decree at Madrid, especially where it involves an outlay of money, and another to carry it into effect in Havana; and, accordingly, we learn that the author, while enjoying the honor of the royal mandate, has deemed it advisable to print himself a portion of the larger work. Dr. Dupierris dedicates the present publication to the City of Havana, and the planters of the island of Cuba.

In his introduction, he adverts to the changes in the atmosphere as modifying the occult causes of disease,—malaria, for example, and the effluvia which contribute to the production of yellow fever. Arago and Schubler are mentioned as explaining the power of winds in transporting effluvia, by saying that this depends, in some measure, on the hygrometrical state of the atmosphere, and that the accumulation of electrical fluid at the surface of the earth, during moist states, favors, perhaps, the evolution of effluvia. After speaking of the infinite number of circumstances under which effluvia are generated, he instances a combination of elements for this end in the mixture of fresh and sea-water, as related by M. Melier, in the salt marshes of Lucca, on the Mediterranean coast. Periodical fevers, which had prevailed before, ceased to recur in this district when the water of the sea was prevented from flowing into the fresh-water marshes. Reference is made to the belief of M. Chevreul, and other writers, in the morbific agency of sulphuretted hydrogen gas. Whatever may be the elements which go to form effluvia, we cannot but consider their presence as injurious; and although we do not always perceive the deleterious operation of these latter, there is no reason, continues the author, why we should not take all pains to free ourselves from their presence.

The first chapter of the memoir, on the topography of Havana and its environs, opens with the assertion, that the study of topography is an indispensable preliminary for acquiring a knowledge of diseases: reference is made to the authority of Hippocrates to this effect. In Havana, as elsewhere, the cholera has proved a wonderful inciter to the study of meteorology and topography. It is in this connection that Dr. Dupierris exhibits the result of his observations on the existing causes of the unhealthiness of that city, and indicates the means by which it, the richest and fairest of the Antilles, may be made the most healthy of all of them.

"The City of St. Christopher of the Havana" is situated a few miles within the tropic of Cancer, or in latitude 23° 9′ north, and in longitude 76° 4′ from the meridian of Cadiz (or 82° 23′ from London). Its population, which, in 1823, was 112,033, is now 134,122, of which 74,623 are whites. It occupies an area of 300,000 yards (*varas*), the surface of which exhibits various degrees of undulation around the bay. The elevated part is spread fan-like, with its surface concave, and at its end, or obtuse angle thus formed, are several openings; some in the walls, which give on the street of Cuba; others into the sewers which carry off the waste waters into the harbor. In the Alamada of Columbus, in the quarters of Jesus Mary and of Carraguao, the soil is very marshy. The unhealthy space here is being diminished by draining, and the construction of handsome buildings. The streets run from north to south, and from east to west: they are rather narrow, and not paved, and are deficient in cleanliness. In some of the new suburbs the streets are wider and better laid out; but the sidewalks, naturally bad, are less attended to than in the city proper.

The houses of Havana are generally constructed on the same plan, each of them having a portico ten yards by twelve. On one side is the hall, which is connected with different rooms, opening one into the other. Fronting, there is a court, beyond which, and of not very inviting appearance, are the kitchen, stables, privy, lodgings of the coachman and other servants, sheds for horses-gear, and vehicles of different kinds, all in "most admired disorder." When the doors between the rooms are left open, a strong current of air is established, which often causes suppressed perspiration in persons thus exposed, followed by functional disorders, and even spasms, which are of such common occurrence in tropical regions.

In a great many houses in Havana, of less size and value than those just described, the portico is wanting, and the hall is then a general thoroughfare for persons and animals, the barrel of night-soil, all, in fine, that is collected in the rear sheds. The hall itself is damp and dirty. It is not difficult to anticipate the inconveniences, and even fatal consequences of such a state of things; but still more deplorable results must obtain from the emanations from the open sinks and drains, which are between the kitchen and stables, and which receive the waste waters and refuse from them, and sometimes the barrel of night-soil itself. This latter is generally carried away daily, at noon, in carts, by persons who contract to perform the work. The passage of these carts is, of course, accompanied by a horrible stench, which always announces their approach. Well may the author say that if Havana, in the midst of these elements of pestilence, should not be all the time scourged, it must be regarded as proof of the excellence of the climate itself. The kitchen has but one door, which opens on the court, and as the ground before is neither paved nor tiled, it is continually wet, if not muddy, by the water and slops thrown on it. The court in this class of houses is too small to allow of due access of air to the rooms which open into it, and which, as there is no second story, are those occupied by the family. They are also often shut out from the sun's rays, and adequate access of fresh air by lofty buildings near them. The privies want wells, and are in other respects badly constructed, there being no tube for carrying off fetid gaseous exhalations, nor other means of escape for these than the door: the floors are also incrusted with dirt.

Public hygiene would seem to be retrograding in Havana. For a while the fluid portion of the night-soil was put into well-closed vessels, and the solid part into others which were air-tight; but notwithstanding the obvious advantages of such an arrangement it was discontinued, because the contractors could not agree to perform their work on as low terms as others who followed the old and nasty fashion of carrying away all the contents of the privies together. Formerly, the carrying away these matters was done in the night instead of as now in midday. Another injury to public health consists in distributing the night-soil, without prior preparation or its being made into compost, on the fields in the neighborhood of the city. By this means, myriads of flies and other insects are attracted to the spot, and destroy the plants or other vegetable growth, the decay of which, with the death of these insects, contribute greatly to deteriorate the air of the spot. Some useful suggestions are offered by the author for the improvement of sewers, and the introduction into them of fresh water, and openings, at intervals, for ventilation.

He next describes the suburbs, and the infirmaries and asylums in these quarters. The public cemetery is here, as cemeteries have been so often elsewhere, a nuisance. The soil is sandy and only two or three feet deep, and rests on a hard rock. The emanations from the decomposition of bodies deposited here are sensibly felt, and but for the prevalence of winds from the east and east-northeast, which waft them in another direction from that of the inhabited part, the worst effects would result. The district of Jesus Mary, situated on the south side of the city, which latter, of course, receives the winds blowing west, is in peculiarly wretched condition on the score of hygiene. The streets are for the most part narrow, badly laid out, unpaved, and with the surface broken into inequalities, and obstructed with impurities. In other places, one is disgusted with the sight of filthy ponds or stagnant pools and marshes, the waters of which have no exit: ditches also apparently to receive rain water, the refuse and offal from houses, and a heterogeneous mixture of all kinds of abominations, among which are included dead animals and the like. With the exception of five or six streets in this quarter, all the others are impassable. The houses and inhabitants correspond with the streets; all showing filth and squalor. Another source of pestiferous exhalations in this quarter is the canal or drain of Chavez, which traverses the marshes of Penalver, whose waters it receives; its own holding in suspension the decomposed filth of the city: and at the Matadera it is the recipient of the blood, offals, and excrements of the cattle brought here for slaughter. Other nuisances, ponds, &c., are seen in this wretched quarter, the very name of which ought, one would suppose, to urge every devout Spaniard either to change its title, or, this remaining, to institute such hygienic improvements as are demanded. El Cerro, about a league from Havana, though its ground is low and humid, is the most fashionable quarter in the neighborhood of the city, and one prized for the freshness of its air and the baths of running water, which is introduced into the houses.

In that part of the harbor on which the arsenal is situated (*Puerto del*

Arsenal), have been sunk ships of the line, frigates, and smaller vessels, which are buried in the mud, and are only partially visible at low tide. Following the shore, we come, in a south-southwest direction, to the *puerto de Tallapiedra.* In this part is the Military Hospital, which, in common with the city itself, is exposed to winds from the south that blow over mangrove lagoons and the Canal of Chavez. The latter empties into the harbor in this direction, charged with all its putrescent abominations. The water of this part of the bay is nearly stagnant, and being scarcely changed by the tides, it contributes its full share to the pestiferous exhalations just mentioned. Continuing our course round the bay, we meet, at the distance of a mile from Fort Atares, with the Bay of Guasabacoa, and mangrove thickets and marshes. The ground is partly covered by the village of Regla, large public warehouses for preserves and comfits, and islets which are embosomed in it. This bay is, in the opinion of Dr. Dupierris, the most unhealthy part of the harbor of Havana. Its waters are stationary, and furnish ample material for the evolution of effluvia destructive to human life. A continuation of the circuit of the harbor exhibits to the observer fresh marshes and fresh sources of disease.

Havana is now supplied with water brought by the Aqueduct of Ferdinand VII. It first flows into large basins, where it is filtered, or rather loses by deposit its earthy and other matters suspended in it: thence it is distributed through the city in iron pipes. It is rather hard, and acts sometimes harshly on the digestive canal, so as to predispose to disease, in seasons of epidemic visitation, such as cholera.

The author terminates his memoir on the medical topography of Havana by a summary of the causes, which we have briefly noticed, of its unhealthiness, and the means for their abatement or removal. We will not follow him in his recommendations, which are apposite and useful; but as coming within the more generally known exactions of public hygiene, they need not engage our notice at this time. There is, assuredly, great call for an enlarged and systematic plan of amelioration and reform in all that relates to the public health in Havana.

Into a consideration of the subject of the second memoir of Dr. Dupierris, viz., on the physical and moral condition of the Asiatic colonists (coolies), we cannot enter at present. Involving, as the subject does, many points of hygiene, therapeutics, and political economy, it would require time and space, beyond our ability just now to command.

ART. V.—*Climatology of the United States and of the Temperate Latitudes of the North American Continent, &c. &c.* By LORIN BLODGET, Author of Several Recent Reports on American Climatology; Member of the National Institute and of Various Learned Societies. Philadelphia: J. B. Lippincott & Co. London: Trübner & Co. 1857; pp. 536. Royal octavo.

CLIMATOLOGY, if not already a science, is fast advancing to the rank of one. In place of partial observations, crude conjectures, and hasty inferences, we now have a large body of carefully ascertained facts, methodically and systematically arranged on a scientific basis. That which was once regarded as a matter of philosophical curiosity, has now recognized relations with ethnology, hygiene, agriculture, and commerce. It furnishes us with formulas by which we can determine, in advance, the capability of extensive regions of the earth to be settled and cultivated by the hand of man, instead of our being obliged to wait for the results of the slow and empirical gropings, as it were, of tentative explorations and colonization. It does this by showing the temperature and other atmospherical conditions, and the physical geography of the great belts or zones in which man and his tributary animals can retain their physiological activity; and in which the great staples and secondary products for sustenance, condimental use, and clothing, can be grown, both for the inhabitants themselves, and for foreign supply.

In this volume, by Mr. Blodget, the subject of the climatology of the United States is spread before us, with its chief bearings and applications, in a spirit of painstaking and research beyond all praise. The venerable Humboldt will, we are sure, hail our author, both as a zealous disciple, and an able coadjutor, who has enlarged, filled up, and systematized the sketches which he himself made, half a century ago, as the result, in a great degree, of his travels, and the information collected in this continent. We must seek for another occasion to do justice to the present work, by exhibiting its scope, and the leading topics of which it treats, as well as the manner in which they are handled. Just now, we are unable to do more than be a mere indicator; nor can we, in the very scant space allowed us, discharge even this office in a satisfactory manner.

We cannot begin better than by giving the remainder of the title-page, the first and leading part of which heads this notice. In it the author announces its embracing a full comparison of the climatology of the North American Continent, with "the Climatology of the Temperate Latitudes of Europe and Asia, and especially in regard to Agriculture, Sanitary Investigation, and Engineering; with Isothermal and Rain Charts for each Season, the Extreme Months, and the Year; including a Summary of the Statistics of Meteorological Observations in the United States, condensed from recent Scientific and Official Publications."

A few years ago, the study of the climatology of the western or Pacific side of North America was regarded in the light of one of the curiosities of science: now it is a matter of national interest. Both in itself, and as compared with the climates east of the Rocky Mountains, it receives a full measure of the author's attention. He is the first to collect and arrange, with this view, the materials furnished by the surveys of Fremont, Emory, and Stansbury, and of those for a Pacific railroad. We can only allude to the marked contrasts in some important features of climate, between the countries on the Atlantic and Pacific, and the equally marked resemblances between the latter and the coasts of Western Europe. An interesting comparison between the arid and interior areas of the two continents is the subject of a chapter. Another is given to that of the Eastern United States with the West of Europe. To this succeeds a comparison of the basin of the Gulf of Mexico with that of the Mediterranean Sea.

"Distribution of Heat in the United States, Monthly, and for the Seasons, with Explanation of the Isothermal Charts," is the title of another division or chapter, consisting of sixty pages, which, in point of substance and information, is alike clear and comprehensive, and, taken in connection with the following, would, by some avid readers, be regarded as cheap at the price of the entire work.* The following portion is on the "Distribution of Rain, on Divisions for each Season of the Year, and in explanation of the Illustrative Charts." Another chapter is occupied with a consideration of the winds of the United States, and a comparison of them with those of Europe. This includes statements of "General Western Storms." Then comes what may be called Applied Climatology, in four successive chapters, in which are studied the climatological range of native forests, and of vegetation, and of cultivated staples of tropical or semitropical origin; also climatology of cereal grains and grasses in the United States; and general sanitary relations of the United States climate. This last topic we hope to enjoy the privilege of discussing at a more opportune time than the present. We need not lay stress on its great practical importance in order to excite the curiosity of our readers, and to induce them to consult the volume itself, in anticipation of commentaries from any other quarter. "Permanence of the Principal Conditions," and "Physical Constants," take up two more chapters. The work closes with a chapter (XIX) on the "Climate of the Northwestern Districts" of this continent, a theme which opens out a prospect of future population and agricultural products, based on scientific data, which goes beyond the imaginings of the poet.

When we consider the vast importance of the subject, the able manner in which it has been treated, and the large and liberal appliances in its mechanical execution and chart illustrations, furnished by the publishers, we can have no hesitation in claiming for Mr. Blodget's volume a ready admission into every public library, whether this be one of special foundation and endowment, or of collegiate and school district, in addition to the cordial reception which it can hardly fail to receive from all students of science and readers of enlarged and philosophic views.

---

* It is no part of our business to ask, although we cannot help expressing our surprise, how this volume, made up of such paper and type, and with such an amount of tabular matter, and so many charts, can be afforded at the price of five dollars.

Art. VI.—*Principles of Medicine. An Elementary View of the Causes, Nature, Treatment, Diagnosis, and Prognosis of Disease. With brief remarks on Hygienics, or the Preservation of Health.* By Charles J. B. Williams, M.D., F.R.S. A new American, from the Third and Revised London Edition. 8vo. pp. 486. Philadelphia: Blanchard & Lea. 1857.

No one can peruse the work of Dr. Williams without being convinced that it is a most masterly production. Written in a style remarkable for simplicity and clearness, every page is replete with profound thought, solid matter, and sound judgment. It is eminently a work of principles, a knowledge of which we wish we could infuse into the minds of the profession, as heat and light are diffused through air and water, imparting to them their animating, life-stirring, invigorating influence. It is just such a book as every preceptor should put into the hands of his pupils, as a guide to the study of medicine and surgery; it is, in our judgment, decidedly the best treatise on pathology and practice that has been written in modern times.

That the work of Dr. Williams is appreciated in this country is sufficiently evidenced by the fact, that it has already passed through a number of reprints; but that its contents are understood as they deserve to be is hardly probable from what we know of the mental character of our pupils and young practitioners. It is a hard book to read and comprehend, albeit its style is at once chaste and classical. Principles are, of all things, the most difficult for a student to learn. He can easily comprehend a recipe, or a formula, for calomel and jalap, and he is sure to treasure up everything of this kind in his mind with a sort of miserly care, as if the loss of it would be ruinous to his future career; but if we attempt to teach such a youth a great principle, he looks at us with a holy horror, and forthwith regards us as his worst enemy. An impatience to get at what is practical, and to study only what is practical, is eminently characteristic of the medical mind of the United States at this time. Young Physic will not stop to think and reflect; it imposes upon itself no restraint, and will tolerate no advice; it must complete in a year what it took men a quarter of a century ago to complete in three or four times that period. Let a teacher attempt to instil principles in the class-room, and he will soon find himself without auditors. No lecturer was ever more unpopular, on this account, with first course students than the late Professor Drake. It was his constant practice to devote nearly one-third of his course to the discussion of the great principles of medicine, and we often heard him remark how impossible it was to engage the attention of the young men who attended his prelections, so few of them being educated up to that point. The second course students, on the other hand, having made greater proficiency in the several branches of medicine, generally listened to him with the greatest respect and interest. A similar difficulty seems to be felt in Great Britain, if we may judge from the following statement of the author: "When first," he says, "I communicated to my publisher my intention of bringing out a work on the Principles of Medicine, I was by no means encouraged by the intimation that books on that subject did not sell; but no sooner was it discovered that the 'Principles' were essentially and intelligibly *practical*, than the demand for the work became sufficient to exhaust two editions, long before I could find time to replace them."

We consider that Messrs. Blanchard & Lea have done the profession of this country a great service by furnishing them with a reprint of this admirable production, which has placed its author in the front rank of British pathologists. We trust that edition after edition will be exhausted, until, at no distant day, some American physician, charged with competent knowledge, and stimulated by a noble ambition, shall be able to supply us with a similar treatise at least equally meritorious.

ART. VII.—*Diseases of the Ear, illustrated by Clinical Observations.* By JOHN NOTTINGHAM, Surgeon to the Southern Hospital; Consulting Surgeon to the Eye and Ear Institutions, Liverpool. London: John Churchill, Burlington Street. 8vo. 644 pp. 1857.

"A book's a book although there's nothing in it."

WE are forcibly reminded of the truth of this couplet, by the perusal of the work of Mr. John Nottingham on the Diseases of the Ear. It has not fallen to our lot for a long time to peruse so large a work with so little substance, one so utterly jejune, and so entirely unsatisfactory in every particular. It is difficult to say whether the author intended it as a work for the benefit of his professional brethren, or as an advertisement for the acquisition of business. We are more than half inclined to believe that he was influenced by the latter consideration. If he had entitled his book a Collection of Cases of Diseases of the Ear, it would have conveyed to the reader a much better idea of the real character of the work, for it is really essentially this, and nothing more. The reader looks in vain for anything like a connected treatise on the subject, comprising a digest of the existing state of the science, or even a digest of the author's own experience. Why

Mr. Nottingham should have considered himself obliged to publish such a work, is beyond our power to conceive. We can hardly excuse a man for writing a book on any subject, unless he can offer something new and valuable, or present what is already known in a novel and interesting light. We cannot perceive that Mr. Nottingham has done either; the whole work is a continual repetition of cases, without any deduction of principles calculated to serve as a guide to sound aural medicine and surgery. The cases which he details are certainly not devoid of interest, but we defy any one, unless he is already familiar with the subject, to derive any material benefit from their study. Had he given us a comprehensive description of the various maladies of the ear, with well-selected clinical observations, he might have produced a work which would have compared favorably with that of Mr. Wilde, of Dublin, but, as it is, it is not to be named in the same year, much less in the same day. We pity Mr. Churchill, if he published the work at his own expense, for we are confident that the edition must be an entire failure, and we are equally certain that the work will never be reprinted on this side of the Atlantic, so distinguished for the liberal use it makes of the labors of our English brethren. We would advise Mr. Nottingham to remodel his book, and to give it at least something of the character which its present title would seem to imply. As it now stands, all that is really useful in it might be comprised in less than one-sixth of the space it occupies.

ART. VIII.—*On Diseases of the Skin.* By ERASMUS WILSON, F.R.S. Fourth American, from the Fourth and Enlarged London Edition. Philadelphia: Blanchard & Lea. 8vo. pp. 649. 1857.

WE are happy to be able to introduce to our readers a new edition, the fourth, of Mr. Wilson's work on the "Diseases of the Skin," believing that it is the most complete and comprehensive treatise on the subject in the English language. It may now be regarded, indeed, as the standard work upon the subject. In preparing this edition, the author has made numerous additions, and has thus greatly enhanced its value. Among these additions the most important are, several new chapters on the classification, the general pathology, and the general therapeutics of cutaneous diseases, with remarks on furuncular eruptions, affections of the nails, burns, frostbite, parasitic animals, diseases of the sebiparous glands, scrofuloderma, and elephantiasis. He has also extended his account of the syphilitic eruptions, assigning to them a more important position, and arranging them according to their forms and the period of the poison. The volume closes with an appendix of selected formulæ, consisting, for the most part, of prescriptions which he has found most valuable in the treatment of skin diseases, to which frequent reference is made in the body of the work.

The work is accompanied by a series of plates, altogether nineteen in number, of which twelve are exquisitely colored. They represent nearly one hundred varieties of diseases, together with the normal anatomy of the skin, and are nearly all the size of nature.

It is not necessary to say anything in commendation of a work which has passed through so many editions as that of Mr. Wilson; nor anything respecting the necessity of studying a class of diseases so common as those of the skin. We believe it is generally acknowledged that the author is one of the ablest dermatologists in Europe, and this, surely, is enough honor for any man, however ambitious of fame. His practice, in this branch of medicine, is said to be very extensive, and it cannot be doubted that it must be remunerative in a city where there must be so much demand for this kind of knowledge and skill.

The American profession has not yet produced an original work on the diseases of the skin. We are aware that the late Dr. Worcester, of Cincinnati, published a treatise on that subject, but it was, as every one knows, chiefly a compilation from the works of Alibert, Rayer, Plumbe, Cazenave, and Schedel, and other writers. It was published when he was quite young, and has, we believe, long since been forgotten. The manual of Cazenave and Schedel has passed through several editions in this country, under the editorial supervision of Dr. Bulkley, of New York, one of the best authorities on skin diseases in the United States. Dr. Fisher, of Boston, published, many years ago, a beautiful and highly-creditable work on small-pox and varioloid; but, with these exceptions, nothing has been done in this country, so far as our information extends, for the department of dermatology. That we have, or might have, an abundance of opportunities for the study of the subject is unquestionable, and the only wonder is that it has not yet found any devotees. We venture to affirm that there is no department of the profession so little understood by the American practitioner as this; or one which, if properly pursued, holds out greater prospect of usefulness and fame.

ART. IX.—*Catalogue Raisonné of the Medical Library of the Pennsylvania Hospital.* By EMIL FISCHER, M.D. Printed by Order of the Board of Managers. T. K. & P. G. Collins, Printers. Philadelphia. 1857. Octavo, pp. 750, including Index of Authors' Names.

IF a good library be a great boon to the student, whether pupil, expert or preceptor, the next best thing for all concerned is, certainly, a well-furnished and well-digested catalogue. The medical students of Philadelphia have long enjoyed the former in the well-known collection of the Pennsylvania Hospital; and they may now revel in the latter, since they have, at last, within their reach, a catalogue, which, in every use and characteristic of such a guide, is far in advance even of the large and excellent library, which it so admirably represents.

This library is said, we believe justly, to be the best of its kind, as it is the first of its date, in the country; but whether the pre-eminence thus claimed be admitted or not, there can be no question whatever as to the superiority of the catalogue just issued by the Hospital managers. It is not excelled, if equalled, by any yet published in the English language; and will safely bear comparison with similar productions in other European tongues.

Although preceded, at various periods, since the foundation in 1763, by three different compilations, each of which was subsequently augmented with a supplement, it has been prepared independently of these, and is, therefore, an entirely new work.

"For the old plan," says Dr. Fischer, "of disposing the works in the alphabetical order of the names of their authors, a classified arrangement, according to subjects, has been substituted. The advantages of a catalogue raisonné are so evident that it is hardly necessary to particularize them. Not only the student who is anxious to familiarize himself with the depth and breadth of medical literature, but also the medical writer in his laborious research for authorities, which he might consult on the subject of his investigation, will derive material aid from a work of this kind.

"For the classification used in the present catalogue, the compiler is essentially indebted to the catalogue raisonné of the library of the Medical Society of Edinburgh, the arrangement of which has been followed out as far as some difference in the compass and character of the two libraries would permit.

"The whole work has been divided into four parts, viz., Medicine, Science, Literature, and Miscellanies. Each part has been subdivided into chapters, the first and most important part containing eight of them, viz.: I. Anatomy, including Human and Comparative Anatomy; II. Physiology; III. Materia Medica and Pharmacy, including Hygiene and Therapeutics; IV. General Pathology, and Practice of Medicine; V. Surgery; VI. Midwifery, and Diseases of Women and Children; VII. Medical Jurisprudence and Medical Police; and, VIII. Medical Literature.

"It will be found that the classification and subclassification of the different chapters coincide, as far as can be in a work of this kind, with those adopted in most systematic works on the different branches of medical and general science. Only in those instances where no scientific ground for classification could be found the alphabetical arrangement has been had recourse to.

"For the disposition of a book, not only its title, but also its contents had to be taken into consideration. In order not to separate a work from others contained under a certain subhead, and treating on the same subject, but from different points of view, its relation to the general head had to be sometimes disregarded.

"Titles which had to be repeated frequently, were abbreviated, in accordance to the head under which they were placed, and by this measure unnecessary incumbrance of the catalogue was avoided. The space thus gained has been taken advantage of for the quotation of monographs, essays, &c., contained in collective works, or in appendices to larger treatises. These quotations have been necessarily confined to such essays, which either were known to have been published in a separate form, or which, from the nature of their contents or extent, seemed to be of some importance. Some of these points had to be ascertained by the aid of bibliographical works."

The foregoing extract, from his introduction, will afford some idea of the great value of Dr. Fischer's compilation, not merely to the frequenters of the library, but as a means of reference even to those who have no direct access to the volumes which it indicates. From it also, those, at least, who have some knowledge of such undertakings, may form a faint conception of the obligation we are all under to its untiring and able author, for the vast amount of manual and intellectual labor which he has so successfully expended in the preparation of its pages, and in their supervision through the press.

The thanks of the whole profession are due also to the Managers of the Pennsylvania Hospital, for the wise liberality displayed in the publication of so honorable and instructive an exponent of their noble library; and we cordially congratulate them, not only on their fortunate selection of Dr. Fischer for the work, but on the very handsome manner in which they have allowed the printers to present it to the public.

We sincerely hope, for the sake of all who resort to Philadelphia, or reside here, in pursuit of medical knowledge, that Dr. Fischer may early and abundantly enjoy the reward, which alone he asks for, in the increasing usefulness of the library, and the augmenting interest manifested in its treasures by the medical fraternity, for whose advantage it was originally founded, and has been so long and so efficiently fostered.

Copies may be obtained from the librarian at the Hospital.

ART. X.—*The Practice of Surgery.* By JAMES MILLER, F.R.S.E., F.R.C.S.C., Surgeon in Ordinary for the Queen for Scotland; Surgeon in Ordinary to his Royal Highness Prince Albert for Scotland; Professor of Surgery in the University of Edinburgh; Consulting Surgeon to the Royal Infirmary, &c. &c. Revised by the American Editor. Fourth American, from the last Edinburgh Edition. Illustrated by three hundred and sixty-four Engravings on Wood. 8vo. pp. 682. Philadelphia: Blanchard & Lea. 1857.

OF a work so universally known as this, it is not necessary to say anything further than simply to announce the publication of a new edition. A formal introduction to the profession of this country would be as absurd as a formal introduction of a child to its parent. There is hardly a respectable practitioner in the United States who is not practically conversant with its merits. Excepting the work of Professor Fergusson, of London, so well and so favorably known to our readers, we are not acquainted with any treatise on practical surgery in the English language at all comparable to that of Mr. Miller. As an accurate, faithful, and graphic nosographer, we have long regarded the author as without a rival. His style, without being always elegant, is eminently vigorous and impressive, and altogether *Millerian* in its character. It will be recollected by our readers that the edition of this work immediately preceding this, was edited by Dr. Sargent, of this city, but as this gentleman has been for some time absent in Europe, the present issue has been brought out under the superintendence of one of his friends, whose name, however, does not appear upon the title-page, nor, indeed, in any other part of the work. He states, in his preface, that he has "added some additional matter," chiefly in relation to the progress of surgery in this country; and the numerous and valuable references which he has made to American Journals, bear him out in the statement. The most important of these are an account of Dr. Bozeman's operation for vesico-vaginal fistule, first published in the Louisville Review, and subsequently in this Journal. He has also added a number of new illustrations, which somewhat enhance the value of the work. The new edition is issued in a style highly creditable to the eminent publishers.

ART. XI.—*An Address delivered before the Medical Society of the State of Pennsylvania, at its Annual Session, held in Westchester, in May,* 1857. By R. LA ROCHE, M.D., President of the Society; pp. 51.

AMONG the many annual addresses delivered at our medical colleges and before the numerous medical societies of the country, few, we venture to say, compare in point of genuine merit with the handsome production of Dr. La Roche. The name of the author is of itself a sufficient guarantee of the truth of this assertion, and while we would cheerfully give farther proof, by an extended analysis of the address, we are compelled, by want of room, to limit ourselves to the statement that it is a clear, manly exposition of the means by which alone medical science may be advanced, and the profession elevated to its proper rank. We advise our readers to procure the address, and to give it that careful and considerate perusal which it so justly claims.

ART. XII.—*A Theoretical and Practical Treatise on Midwifery, including the Diseases of Pregnancy and Parturition, and the Attentions required by the Child from Birth to the Period of Weaning.* By P. CAZEAU, Adj. Prof. in the Faculty of Medicine of Paris. Second American Edition, translated from the Fifth French Edition, by WM.

R. BULLOCK, M.D., with 140 Illustrations. Philadelphia: Lindsay & Blakiston. 1857.

WE have received the above large volume from the publishers, and take pleasure in welcoming M. Cazeaux to a renewed American acquaintance. In our next number, we hope to present our readers with an extended analysis of the work; at present, we can do no more than thank the publishers for the privilege, a privilege which the handsome appearance of the book would of itself shame a reviewer from abusing, were better motives wanting.

ART. XIII.—*The Physician's Visiting List, Diary, and Book of Engagements for* 1858. Philadelphia: Lindsay & Blakiston.

THIS little volume, put up in pocket-book form, comprises an almanac, table of signs, an account of poisons and their antidotes, a table for calculating the period of utero-gestation, and blank leaves for visiting list, and memoranda for every day in the year. The physician cannot fail to find it useful and convenient.

ART. XIV.—*Materia Medica and Therapeutics, with ample Illustrations of Practice in all the Departments of Medical Science, and very copious Notes of Toxicology, suited to the wants of Medical Students, Practitioners, and Teachers.* A new Edition, revised and enlarged. By THOMAS D. MITCHELL, A. M., M. D., Professor of Materia Medica and General Therapeutics, in Jefferson Medical College, and formerly Professor of the same in Transylvania University. Philadelphia: J. B. Lippincott & Co.; pp. 820, octavo. 1857.

A QUOTATION from the preface to this edition is all that need be given in this place, at this time. "It is written to say, that the work has been carefully revised and brought down to the present time. As a consequence, the bulk of the volume is augmented by eighty-two pages, a circumstance altogether unavoidable. The author has added his own experience on various points, and given the best testimony of the great world of physic, with the design of putting a book of real value into the hands of students and practitioners. It is believed that every valuable new application of an old remedy, as well as the desirable uses of agents claimed to be new, down to the date of this prefatory note, are here presented so as to set forth their real or apparent worth." A more extended notice of Professor Mitchell's work will appear hereafter. Meanwhile, we bespeak for it the favorable notice of the profession.

Original Communications.

ART. I.—*Urethro-Vaginal and Vesico-Vaginal Fistules; Remarks upon their Peculiarities and Complications, their Classification and Treatment; Modifications of the Button Suture; Report of Cases successfully Treated.* By N. BOZEMAN, M.D., of Montgomery, Alabama.

(Continued from the July number.)

HAVING now completed, for the present, my remarks upon *Urethro-Vaginal and Vesico-Vaginal Fistules*, together with their treatment, I propose, in the next place, a brief analysis of all the cases in which I have employed the button suture. I shall then pass on to the narration of those cases which have not heretofore been recorded, at the same time accompanying each one possessing points of interest with such remarks as its practical bearing may require or circumstances suggest.

It is also proper for me to mention in this place the fact, that the foregoing remarks are merely a continuation of the views set forth in my former paper, and as such, the numbering of the cases here appended will thus appear.

My experience, although extending over a period of little more than two years, presents a greater variety of cases, I think I can safely say, than has ever before been offered to the profession by any one operator either in this country or Europe. When I say variety of cases, I refer to their different forms and complications as met with in practice, including, of course, their successful management. In making this assertion, I do not wish to be understood as boasting of my experience or success, nor do I believe any one who has examined into the subject will do me the injustice to think so. I make the statement as a fact, based upon the professional records of the past. If by it injustice is done to any one, he has only to establish his superior claims to the position I have assumed, and in that event no one would more cheerfully acknowledge the error and accord to him his just dues than myself.

The details of some of my cases are much more minute than I could have desired, but it was unavoidable under the circumstances. Their interest, and the points of practical utility they illustrate, demand, I think, that they should thus be put upon record; on these grounds, therefore, I hope to escape the imputation of prolixity.

Since the appearance of the first part of this paper, I have had under my charge two new cases, making in all twenty-six that I have now examined, instead of twenty-four as shown by the tabular statement on a former page.

Both of these were cases of single fistule, and belonged respectively to classes fourth and fifth.

One of the cases included in the statement referred to, and put down as single, was afterwards discovered to be triple, thus making three cases of this form of disease instead of two. The additional fistules in this case both belonged to the third class. These, and the two new ones, make, then, an aggregate of thirty-six fistules instead of thirty-two, which I have examined, in regard to their relative frequency of occurrence. By reference to the table the correction may be easily made. By this change in the figures, but a very slight difference in the percentage will be found to result.

The following is a summary of twenty-one cases, being all in which I have employed the *button suture.*

Single fistules,	14 Cases.
Double "	4 "
Triple "	3 "

Class 1st,	5 Fistules.
" 2d,	8 "
" 3d,	6 "
" 4th,	4 "
" 5th,	8 "

Four of the above cases, embracing seven fistules, are reported in my first paper.* Five of these fistules belonged to the second class, and two to the third.

Two more of these cases, one single and the other triple, are yet under treatment, and do not appear among the appended reports. In the former of these, the fistule belongs to the first class, and is associated with laceration of the perineum and recto-vaginal septum. It has been twice operated upon with only partial success. The failures were occasioned by a contracted and hardened condition of the surrounding parts. In the latter, the fistules (a rent and two fistules) originally belonged to the first, third, and fourth classes. Those of the first and fourth I have succeeded in permanently closing. The other was once closed, and remained so for about a week; ulcerative inflammation then caused a reproduction of it. Once since, I have operated, but failed. In all, I have had four failures. This case is remarkable, in being the one which led me to the discovery of the button suture; in being the one in which this suture (my twelfth application of it) first failed; and it is also remarkable in having been once permanently cured, and then followed by a relapse. The causes of failure may thus be briefly enumerated: bad health of the patient, almost complete closure of the vaginal canal from old cicatrices, and its proneness to take on ulcerative inflammation whenever disturbed, either by incision, dilatation, or denudation of the edges of the fistulous openings, &c. Having succeeded in closing two of the openings permanently, and the other once, temporarily, I feel encouraged to believe that I will yet obtain a satisfactory result.

---

* See Louisville Review, May, 1856.

The other fifteen cases, twelve single, one double, and two triple, embracing twenty fistules, I will now proceed to relate.

CASE V. *Vesico-vaginal Fistule complicated with Rent of the Anterior Lip of the Cervix Uteri, of nearly Five Years' Standing. Cure by the Button Suture.*

Mrs. H., of Troup County, Ga., æt. 34, of medium stature, and well formed, consulted me, on the 17th of April, 1856, in regard to her condition. She states that she has had three children, two now living; the other, her last, was still-born. The birth of the latter occurred in November, 1851, at which time she became the subject of her present difficulty. Labor, in this instance, after continuing two or three days, was terminated by a resort to instruments,—craniotomy being performed. During the greater part of the labor she passed little or no urine. Says her suffering, on this account, was extreme. Just before calling in the physician who performed the above operation, she was relieved by the sudden discharge of a large quantity of water. All was now thought to be right. A few days after delivery, puerperal fever was developed, which lasted three or four weeks. At the end of this period, first called the physician's attention to the fact of the urine passing off constantly without occasioning any desire. Fistule of the bladder was now suspected. No examination, however, was made, or anything done for five or six weeks. Confinement now in the recumbent posture, with catheter worn constantly in the bladder, use of caustic, &c., constituted the course of treatment, but all to no purpose, however, as the result shows. Has never menstruated since she was injured. General health appears pretty good.

Examination.—Fistule of the fifth class, third variety, and complicated the anterior lip of the cervix, at the left angle of the orifice. (See description on a former page.)

Operation.—In the management of this particular form of injury, I heretofore stated that it is always best to make two operations. Such was the plan adopted in the present instance.

April 30th, everything being in readiness, the edges of the fistule, including the lower end of the rent, were thoroughly pared, and the sutures introduced. Of the latter, four were required. The upper one was made to take hold in the cervix on one side, and in the vesico-vaginal septum on the other, while the remaining three were all lodged in the septum, as in cases not thus complicated. Being next adjusted, the denuded parts were brought in perfect apposition. (Fig. 16 is intended to illustrate such a button as was required.)

For a few days after the operation, patient had slight fever and some little soreness across the lower part of the abdomen; otherwise got along well.

Ninth day. Removed suture apparatus, and found union of the parts perfect throughout. Catheter was worn a few days longer, and the patient then allowed to get up. Now found that she had entire control over her urine. Thus it continued for three weeks. Patient, at the end of this period, concluded she was well enough to visit a relative residing about fifteen miles in the country, and undertook the trip in a carriage. After going about two-thirds of the distance, she discovered the urine to be escaping, as it had formerly done, though in much smaller quantities. This dribbling continued until her return a few days afterwards. Upon being apprised of what had happened, I suspected at once the giving way of the newly-formed cicatrix. An examination showed such to be the case. Only the upper end of it, however, had suffered, thus causing a very small opening into the bladder to be formed. To this I attached but little importance, knowing that I should be able to reclose it without difficulty in connection with the closure of the rent next to be operated upon.

June 3d. Performed the latter operation. The sides of the cleft and the edges of the small fistule were all pared together. Three sutures were required. The lower one was introduced in the same place, and in the same manner, as the upper one in my first operation. The other two were both lodged in the substance of the cervix. Their adjustment now, and the application of a button, made to fit the inequalities of the parts, completed the operation.

After-treatment the same as usual.

Ninth day. Removed suture apparatus, and found union of the parts complete, so far as could be seen. Patient wore a catheter for four or five days longer, and then got up. Again found that she had entire control over her urine. In a few weeks she returned to her home entirely restored. Her general health now improved rapidly, and, in November following, menstruation came on for the first time since her delivery. Now it was that dribbling of urine again took place. Soon afterwards patient returned to consult me in regard to it. Stated that just before the menstrual discharge took place, she suffered severe uterine pains, and, following them, there was bloody urine and leakage of the bladder. Upon examination, no change, which the parts had undergone to allow of dribbling of the urine, could at first be discovered. When, however, the bladder was filled with water, the point at which the escape into the vagina took place was at once revealed. The water, instead of coming from a fistulous opening in the vesico-vaginal septum, was found to issue directly from the uterine orifice. A few moments' reflection convinced me as to the course the water had taken to reach this point, as well as the cause of it. After my last operation there remained at the bottom of the cleft a minute sinus, which, when the menstrual flow took place, allowed a portion of that fluid to pass down by the upper end of the cicatrix formed by the closure of the fistulous opening, and here the latter being arrested, and pressed onwards by an accumulation above, the parts had to yield, and being weaker in the direction of the bladder, the fluid very naturally took that course; hence the severe uterine pains, bloody urine, and subsequent leakage. All doubts now, as to the correctness of the above diagnosis, were removed by passing a delicate probe, slightly curved, along the track referred to in the bladder.

There remained now, I conceived, but one alternative, which was to reproduce the original cleft, by a section of the parts down to the vesical opening, then to thoroughly freshen that part of the former which had been untouched, and the sides of the latter, preparatory to the introduction of the sutures. This was done a few days afterwards, the sutures introduced, and a button applied, just as had been done in the previous operation. The result was entirely satisfactory. My patient was again discharged cured, and continues so at the time of this writing, now nearly a year since. Menstruation has been regular ever since the operation. General health perfect, &c.

Remarks.—This case I consider very interesting as illustrating, in a very striking manner, some of the difficulties we are liable sometimes to encounter in practice. Although a part of the original fistule was twice reproduced, yet, so far as it was concerned, I consider all of my operations as eminently successful under the circumstances. After the result of the first operation was shown, it was some three weeks before leakage of the bladder returned. This, I am satisfied, would not have taken place had my patient not attempted the journey alluded to, until the rent in the cervix could have been closed. As to the second reproduction of the fistule, the cause is to be ascribed solely to the partial failure attending the operation for closure of the rent in the cervix uteri.

The case is also interesting as affording an instance of the artificial production of *vesico-utero-vaginal fistule*, as pointed out by M. Jobert. The condition of the parts, after the second reproduction of the fistule, presented as near an approximation to the above form of injury as I have ever seen.

CASE VI. *Vesico-Vaginal Fistule complicating the Anterior Lip of the*

Cervix Uteri, of Fourteen Years' Standing; partially closed by the Clamp Suture; Cure completed by the Button Suture.

Mrs. H., formerly of Auburn, but now of this city, consulted me in the early part of May, 1856, in regard to her condition; æt. 46; below medium stature; stout and heavily built; general health apparently good, &c. States that in giving birth to her ninth child, June, 1842, she sustained an injury of the bladder. Since then has never been able to retain her urine. Labor lasted about thirty-six hours. The physicians in attendance, discovering that the child was dead and of large size, thought it advisable to effect speedy delivery, which they did with instruments. Says that she passed no urine during labor. Five or six days afterwards first noticed its dribbling.

Patient states that nothing was proposed for her relief until 1849, when she was advised to consult Dr. J. M. Sims, then of this city. Says that Dr. S. performed two operations upon her, from which she derived considerable benefit; the urine, after this, not dribbling off so free as it had done. Now, her general health improved, and menstruation was established. The menstrual fluid, however, instead of coming from the vagina was now discovered to be commingled, to some extent, with the urine, and, as long as the flow lasted (usually two or three days), it was attended with severe uterine pains.

Examination.—Fistule of fifth class, first variety; of small size, circular in shape, and situated high up, and rather to the left side. Its lower edge was unusually thin. The vaginal canal was shortened about one-third, and appeared to be a mere *cul-de-sac.* No cervix or uterine orifice was to be seen. A hard and unyielding structure, in the situation of the former, was the only remaining trace of it, and the fistule was just at the lower edge of this. In carrying a probe through the fistule it came in contact with a firm and resisting body, apparently occupying the superior fundus of the bladder, at least a part of it. This body, as I supposed, proved to be the cervix.

Operation.—Owing to the thinness of the border alluded to, I had great difficulty in obtaining a denuded surface sufficiently extensive to insure agglutination with the one of the opposite side. From the same cause, great trouble was experienced in the introduction of the sutures. It appeared almost impossible to prevent the needle from piercing the vesical mucous membrane. A secondary fistule, therefore, I feared from this circumstance. Three sutures were required. A few hours after the patient was removed from the operating-table, menstruation came on, attended with violent bearing-down pains. Morphia was freely given, but this served only to lull the pain, not to control it. With the cessation of the menstrual flow, the pains passed off, having lasted about three days. The remainder of the patient's confinement was unattended with anything worthy of notice.

Ninth day. Removed the suture apparatus and found complete closure of the fistule. As I feared, a small opening by the side of one of the sutures was now found to exist. The favorable appearance of this, however, induced me to think that it would close up in a few days under the use of nitrate of silver, and longer confinement in bed, with catheter in the bladder. But in this I was mistaken. At the end of four or five weeks, finding little or no improvement, I determined to employ the suture, which I did in the usual way; and in due course of time had the satisfaction of seeing the cure of the case completed. The patient now found, to her delight, that she had control over her urine—something she had been a stranger to for fourteen years. She cannot, it is true, retain her urine as long as formerly, three or four hours being as long as she can go without passing it off; still the success of the operation is perfect, and the benefit conferred by it incalculable. The inability to retain the urine longer than this, is owing, I imagine, to a diminution of the cavity of the bladder. The shortening of the vaginal canal, and incarceration of the cervix uteri, at least justify this conclusion. At the time of this writing, the patient's condition is about as it was just after the operation, excepting her general health, which has greatly improved. She continues to menstruate; being, however, irregular, as is the case generally with females who have reached her period of life. At each return, the same pains occur as formerly. The commingling of the menstrual fluid with the urine, and its entire passage through the urethra, seems to give rise to no more inconvenience than before the closure of the fistule.

Remarks. Whether the incarceration of the cervix uteri, in the cavity of the bladder, was the natural result of the injury which the parts sustained in parturition, or was caused by the operations which had been performed, I am not able to say. Nor am I prepared to affirm whether a part or any of it, had been destroyed. Therefore I cannot state with certainty as to what variety of my fifth class the case originally belonged. The opening I found to exist, I have said, was of the first variety, and as such, was treated in accordance with the plan heretofore laid down.

CASE VII. *Vesico-vaginal Fistule of nearly One Year's Standing, complicating the Anterior Lip of the Cervix Uteri: cure by the Button Suture.*

Amanda, colored girl, of Shelby Co., was admitted into my infirmary on the 22d of May, 1856, laboring under the above form of disease; æt. 19, stout, heavily built, and very healthy-looking.

The history of the case, as detailed to me by my friends, Drs. Wallace and Welch, who attended the patient in her accouchement, is in substance as follows: Patient was taken in labor with her first child on the 30th of Sept. 1855; pains came on regularly, and continued so until the succeeding day, when they ceased. In this condition, things continued pretty much the same for five days. Medical advice was now sought. An examination, per vaginam, showed that the head of the child was low down in the pelvis, and pressing firmly against the neck of the bladder, thus presenting an obstacle to the flow of urine, or the introduction of a catheter to relieve the organ, which was discovered to be very much distended. Relief, at this crisis, being loudly called for, and as there was no prospect of a change by the natural efforts of the patient, it was decided, at once, to employ instruments. Craniotomy was accordingly performed, and delivery speedily accomplished. No further complaint was heard from the patient until a couple of weeks had elapsed, when attention was called to the fact of dribbling of the urine, and inability to pass it in the natural way. The existence of vesico-vaginal fistule was now disclosed. In this condition patient remained until sent to me. Had not menstruated since her injury, but enjoyed pretty good health.

Examination.—Fistule of fifth class, first variety. (For an exact representation of its shape, size, situation, and relations, see Fig. 4.) It was an inch and a quarter in its transverse diameter.

Operation. May 30th, I proceeded to perform the operation in presence of the two gentlemen previously named, who visited our city for the special purpose. (See description, with form of button, Fig. 13, under its appropriate head.) Six sutures were required.

A few hours after patient was put to bed, menstruation came on; otherwise everything went on well until the night of the third day, when a severe pain in the bladder occurred, which caused the catheter to be forced out, followed by a discharge of blood. The instrument was at once replaced, and half a grain of morphia administered. No further trouble with the case was had, excepting to cleanse the catheter, and syringe out the vagina twice a day.

Ninth day. Removed suture apparatus, and found union of the parts perfect. Patient wore the catheter a few days longer, and then got up and went about as well as ever.

Remarks.—This case I regard as a beautiful illustration of one of the extremes of the variety to which it properly belonged. The pain referred to as causing the catheter to be forced out of the bladder, I may state here, very often occurs at this stage of the treatment. The establishment of the catamenia immediately after the operation, as in this instance, is not unusual. I have known it to take place under similar circumstances, even where it had been absent two and three years. I have several times observed this fact, and I think it is one of sufficient interest to deserve notice.

CASE VIII. *Vesico-Vaginal Fistule of Eighteen Months' Standing, complicating the Cervix Uteri with Closure of its Canal, and involving nearly the whole of the Bas Fond of the Bladder; Cure by the Button Suture.*

Minerva, colored girl, of this city, was admitted into my infirmary on the 13th of June, 1856; æt. 24; tall and rather spare built; states that she has had three children at full term, the last having been born about eighteen months ago, at which time she became the subject of her presen difficulty; is not certain how long she was in labor; thinks that it was two or three days. Child was of large size and dead, and had to be removed with instruments. Five or six days afterwards discovered dribbling of urine. Has never menstruated since; general health not been very good.

Examination.—Fistule of fifth class, second variety. (See Fig. 5 and its description. The drawing was made from this case.) No trace of the os uteri could be seen.

Operation.—July 12th, assisted by Dr. Wilson and my private pupil, Mr. J. S. Dillard, I proceeded to the operation. (See description of the different stages under its appropriate head. In addition, I may state, however, that in the paring process the end of each ureter was cut off and slit on the vaginal side of the septum to the extent of a quarter of an inch, the object of this being to throw the entrance of the urine into the bladder away from the approximated edges of the fistule.) The arrangement of the sutures, eight in number, and the distance the uterus had to be hauled down, are illustrated at Fig. 14. The button employed is illustrated by Fig. 15.

For two or three days after the operation, patient complained of considerable soreness across the lower part of the abdomen, caused doubtless by displacement of the uterus. This, however, passed off without any ill consequences.

Ninth day. Removed suture apparatus and found a perfect cure. After four or five days the catheter was dispensed with, and the patient allowed to get up. Entire control of the urine existed; could not, however, retain much at a time; had to pass it off frequently. Soon began to improve in this respect, and not long afterwards patient informed me that she could lie pretty much all night without having to get up to relieve the bladder. The general health now improved rapidly. After a few months, I undertook the re-establishment of the cervical canal. Now a more natural condition of the parts was found to exist; by the very great elasticity of the vaginal wall the uterus had been allowed to ascend almost to its normal position in the pelvis. In the situation of the uterine orifice was to be seen a very slight depression, indicating, as I thought, the entrance into the canal for which I was in search. To satisfy myself that such was the true state of things, I provided myself with a long and delicate bistoury. This I entered at the point of depression, and carried it about a quarter of an inch in the direction of the cervical canal. I next introduced a very small metallic bougie into the cut, and after some little perseverance succeeded in passing it on into the cavity of the uterus. In a short time I had the canal so far dilated that a No. 12 bougie could without any difficulty be introduced. After this I had no other trouble with the case, excepting to introduce the bougie occasionally to prevent reclosure of the orifice.

In a few weeks menstruation was re-established, and the patient's health then began to improve very rapidly. At the time of this writing, she says she is as well as she ever was. An examination of the parts now, without being apprised of their previous condition, one would, I think, be very unlikely to discover anything unusual in their appearance.

Remarks.—This case I regard as another fair example of the variety it represents, and in none could there be a better illustration given of the principle of the independent action of the sutures than is here shown.

The result, I need scarcely say, is truly interesting, as affording a striking instance of the practicability of closing large fistulous openings by my method, without a resort to *Cystoplasty*, thought by Jobert and others to be the only alternative in such cases.

CASE IX. *Vesico-Vaginal Fistule of Eighteen Months' Standing; Three Failures with the Clamp Suture; First Operation with the Button Suture successful.*

Ann, colored girl, of Lumpkin, Geo., was admitted on the 25th of Oct. 1856, æt. 22; below medium stature, and apparently in good health. She gives the following history of herself: States that she was confined with her first child in June, 1855; labor lasted about sixty hours; child was removed with instruments, was of large size, and dead; does not recollect whether urine was passed regularly during labor or not. First discovered dribbling five or six days after delivery.

About a year ago this patient, I understand, was placed under the charge of a surgeon, who performed three operations with the clamp suture; all to no purpose, however, as the result shows.

Examination.—Fistule of fourth class, first variety. (See description and the accompanying cut, Fig. 2.) The diameter in this instance was about three-fourths of an inch. Only about an eighth of an inch of the urethra seemed to be gone. No inversion of the anterior edge. Posterior edge could not be brought down so as to close the opening, nor could the vaginal canal be expanded with the speculum to the usual extent, in consequence of adhesion of the two walls of the latter upon the left side. The removal of this obstacle, therefore, was indispensable.

A few days after admission, I put the patient in position for the operation. The plan adopted consisted in making a deep and horizontal incision from the left extremity of the fistule. The result was satisfactory. The canal could now be expanded to its full size, and the posterior edge of the fistule brought in apposition with the one of the opposite side without any difficulty. Until the parts could heal, a relapse was effectually prevented by keeping the vagina constantly distended by means of an oil-silk bag of suitable size, and stuffed with bits of sponge. This tent required to be removed twice a day, and the parts syringed out with cold water.

Operation.—On the 16th of December, everything being in readiness for closure of the fistule, I proceeded to perform the operation in presence of Drs. Hill and Jackson. Four sutures were required. Surface upon which the button had to stand was concave; the latter had, therefore, to be adapted accordingly. (Fig. 11 is a view of such a button as was used.)

Removed suture apparatus ninth day, and found union of the parts perfect. Patient wore a catheter the usual length of time, and then got up. At first, could not retain her urine; it all passed off involuntarily through the urethra. Gave tinct. cantharides, ten drops three times a day. In a few days after commencing the medicine, there was a manifest improvement in the retentive power of the bladder, and in less than three weeks after getting up, patient was discharged entirely restored. She could now retain and pass her urine as well as she ever could.

Remarks.—The result in this case was as satisfactory as could have been desired; indeed more so than I had a right to expect, considering the injury which the root of the urethra had sustained. The closure of the fistule itself was simple and easy enough. When I speak of the result as satisfactory, I refer more particularly to the fact that the patient was enabled to control her urine, which, I repeat, must be regarded as remarkable under the circumstances.

The total inefficiency of the clamp suture in such cases was here clearly shown. By this I do not intend to cast any reflection upon the skill of the gentleman who employed the method in question; for I firmly believe no better result than this could have been obtained by any operator under similar circumstances.

CASE X. *Vesico-Vaginal Fistule of Thirteen Years' Standing; Inversion of the Bladder; Case thought to be Incurable; attempted Occlusion of Vagina; Failure; Fistule finally closed at One Operation by the Button Suture.*

Julia, colored girl, of Lowndes County, first came under my notice in the spring of 1853. She was at that time under the charge of Dr. J. M. Sims, then of this city. No operative procedure was attempted by that gentleman. On many occasions he remarked to me that the only alternative was occlusion of the vagina, as directed by M. Vidal. This operation, however, he never performed.

Two years afterwards, the case was placed under my charge. Its history was as follows: Patient, æt. 37; above medium size; stout, well-formed, and healthy-looking. States that at the age of twenty-five she was confined with her third child, and since then has not been able to retain her urine, not even a few drops at a time. Labor lasted four days; does not recollect whether the urine passed regularly or not during the time; child was removed with instruments; was dead, and of large size. A few days after delivery, dribbling of urine took place.

First Examination.—Found, in addition to the usual external signs of fistule, a very large and fleshy-looking tumor protruding from the vulva. The surface of the tumor was studded with granulations, which were firm, extremely sensitive, and would readily bleed on being handled; upon its upper part were to be seen the mouths of the ureters, from which the urine trickled away externally as fast as secreted by the kidneys. There was no difficulty, therefore, in recognizing this unnatural protrusion to be the extruded bladder. Knowing now the extensive injury which the organ must have sustained to have resulted in this condition of things, I at once came to the conclusion of Dr. Sims, namely, that occlusion of the vagina was the only alternative which promised any benefit to the patient.

A few days after admission, assisted by Dr. Clanton, I accordingly proceeded to perform that operation. A complete failure, however, was the result. I now felt but little encouraged to renew my efforts, and in view of the slight benefit which was likely to accrue to the patient from another operation, even though successful, I determined to discharge the case, hoping that I would hear no more of it. My patient, however, after being away about eighteen months, returned, insisting that I should make another attempt to relieve her in some way. In the mean time, having fallen upon the plan of the button suture, I was now prepared to take a more favorable view of the case. She was, accordingly, readmitted in December last.

Second Examination.—Before the true nature of the fistule could now be properly understood, or the vagina be explored, the protruded parts had to be restored to their normal place, and there retained. This reduction I succeeded very well in effecting; but to prevent their extrusion again was the trouble. For the latter purpose, the plan I adopted, and an admirable one I think it is under such circumstances, was to fill the remains of the vesical cavity with pieces of sponge. In this way, a correct and satisfactory view of the fistule and surrounding parts was, and can always be, had. The fistule was found to belong to the fourth class, third variety. (See Fig. 3, and description. The drawing was made from this case, the only one of the kind it has ever been my misfortune to meet with. The extent of inversion of the anterior border of the fistule is represented by the space between the dotted and curved lines.)

Operation.—On the 21st of December, assisted by Dr. Moore, I proceeded to operate, in accordance with the plan of treatment laid down in the former part of this paper.

The manner of paring the edges of the fistule and vaginal surface is intended to be shown by the circular lines delineated in the figure above referred to. The button which was employed is illustrated by Fig. 12. From this it will be seen that eight sutures were required.

Prior to commencing the operation, and for the reason before mentioned, I returned the protruded portion of the bladder, and kept it in place in the way already described. After the paring was over, and the sutures all introduced, the sponge was removed. The sutures now effectually prevented any protrusion until they could be adjusted, and then there was no likelihood that it would occur.

During the whole time of confinement the patient did well. On the ninth day, I removed the suture apparatus, and found union of the parts perfect throughout. At this result, I must confess, I was somewhat surprised. From the size of the fistule, and its peculiarities, I had my doubts about the entire success of the operation.

The patient wore a catheter five days longer, and was then allowed to get up. It was now found that dribbling of urine continued, though not to such an extent as formerly. Waiting a few days, and seeing no improvement in the retentive power of the bladder, I came to the conclusion that I was mistaken as to the entire closure of the fistule, and therefore instituted another examination. Again, however, I was satisfied that the operation had been entirely successful. The destruction of the root of the urethra, the inversion of the corresponding border of the fistule, and the peculiar manner in which the opening had been closed, sufficiently explained the incontinence under which she now suffered. I put her upon the use of tinct. cantharides, and after several weeks there was manifest improvement. She was soon able to retain her urine two or three hours in the recumbent posture, and to get up then and pass it off. In the erect posture it still could not be retained long without dribbling. In the latter respect, however, it was but a short time before there was some improvement. She could now walk about half an hour, or even longer sometimes, without incontinence, and continued gradually to improve from week to week. In conversing with her, a few days since, on the subject, she informed me that, in the morning after emptying the bladder, she could go three hours without any dribbling. This is about the extent of her improvement, and is indeed far more than could have been reasonably expected in the outset, taking all the circumstances into account.

Remarks.—This case, I scarcely need say, is an extreme one. The result of the operation, *per se*, is remarkable. By it is proven what may sometimes be accomplished under circumstances considered otherwise the most hopeless. By it are also established the advantages of the method adopted over any other which has heretofore been proposed in similar cases.

CASE IX.—*Vesico-Vaginal Fistule and Rent of the Urethra of Seven Years' Standing: thought to be incurable; attempted Occlusion of Vagina; Operation nearly successful; Vagina restored to its Normal State; Fistule found to be of Large Size, involving the Anterior Lip of the Cervix Uteri; both Fistule and Rent cured by the Button Suture.*

This patient was very kindly sent to me by my friend, Dr. J. S. Cummings, then of New Orleans, but now of Monroe, Louisiana. From this gentleman I learned that the case had been under treatment in New Orleans for nearly a year, and that after several unsuccessful attempts to close the fistulous opening, recourse was had to occlusion of the vagina.

History.—Nancy, colored girl, was admitted on the 10th of January last; æt. 27; of medium stature, stout, heavily built, and healthy-looking; states that she was confined with her third child seven years ago (1850), at which time she lost the power of controlling her water; was in labor five days; delivered by a physician; no instruments were used; five or six days afterwards first noticed the dribbling of urine. Since the injury she has menstruated, though not regularly. Health generally pretty good.

Examination.—Found the vagina almost completely occluded. Just beneath the meatus urinarius was a small opening into the vaginal canal. Not being able to get a view of the parts beyond through this small opening, I determined at once to restore the canal to its natural condition by severing the existing adhesions. This was quickly done, and gave rise to but little pain.

The fistule thus brought into sight was found to belong to the fifth class, first variety. In appearance it differed little, if at all, from Case VII. The rent of the urethra was about three-quarters of an inch in length. (See remarks upon this form of urethral injuries under the division of Class 1st.)

Operation.—Feb. 15th, the patient being in a favorable condition, I proceeded to operate, assisted by Dr. Moore. The plan was precisely the same as pointed out for Case VII. Patient did well.

On the ninth day, I removed the suture apparatus, and found perfect union, except at a small point just about the middle of the cicatrice. The cause of this slight failure was from the edge or edges of the fistule not being properly pared. The performance of this part of the operation had been very unsatisfactory, owing to the circumstance that the sky became overcast just after I commenced, and I was compelled to finish the operation, I may say, almost in the dark. I remarked at the time I feared there would be a partial failure from this cause.

Another sitting was therefore required. This was had on the 8th of March, and in due course of time a complete cure was obtained. The patient, after getting up, found that she could retain and pass her urine as well as she ever did, excepting the inconvenience resulting from the urethral injury. The rent of the urethra next claimed attention, and, I may remark here, that I had operated several times before on a case of urethral injury similar to this and had failed, from inattention to the proper support of the catheter. I had employed the button suture without any regard to this important point, hence my failures. These, however, were not without profit; I was now led to see the extent of the mischief done by the weight of the catheter, and took steps to avoid it in the present operation, which proved perfectly successful. The importance of my contrivance for the purpose above indicated is dwelt upon at sufficient length on a former page. (For a view of the instrument, which is nothing more than a modification of the button suture, see Fig. 9, and accompanying remarks.)

Operation.—May 19th, in the presence of Dr. J. C. Bachelor, of New Orleans, I proceeded to operate upon this case in accordance with the rules elsewhere laid down.

On the ninth day, I removed the suture apparatus, and found the urethral canal re-established, but lacking its usual length by about one-sixteenth of an inch. This slight shortening of the canal resulted, I am inclined to think, from the corners of the rent having been sacrificed in the operation which had been performed for obliteration of the vagina.

Remarks.—This case I regard as interesting, on account of the coexistence of fistule and rent of the urethra, a circumstance which, though not very unfrequent, is one which may always be viewed as complicating the treatment. The case is also interesting on account of the prompt and complete success of my operation, after several failures of other surgeons to close the fistule, and a resort to occlusion of the vagina. How many methods had previously been tried, I cannot state positively. Those of Vidal, Sims, and myself, all, I understand, had a showing.

CASE XII. *Urethro-Vaginal Fistule of Eight Years' Standing; Cure by the Button Suture.*

Mrs. S., of Arkansas, five years a widow, came to our city on the 16th of March last, for the purpose of consulting me in regard to her condition; æt. 29; of medium stature, well formed, and apparently in pretty good health. States that she was confined with her first child on the 17th of June, 1849, at which time she sustained an injury, supposed to be of the bladder, and ever since then has had incontinence of urine. Labor lasted about sixty hours; for the first thirty-six the pains were heavy, then they grew lighter, and finally ceased. This repose lasted only a few hours, the pains again came on with redoubled severity, and continued until the child was born, which was dead, and of large size. Says that the physician in attendance used instruments to aid in delivery. During labor the bladder was kept empty by the occasional introduction of a catheter. In less than twenty-four hours after delivery, discovered dribbling of urine. Since the injury she has enjoyed very good health. Menstruates regularly, and has had two living children and one miscarriage. These labors were all easy, and unattended with further difficulty as regards the retentive power of the bladder.

Examination.—Fistule of first class, third variety. (The drawing at Fig. 1 was taken from this case. See accompanying remarks.) The injury was found to be about three-fourths of an inch in length, and, as will be seen in the cut, was very near the neck of the bladder. Owing to this latter circumstance, the patient had no more control over her urine than had the opening been situated in the vesico-vaginal septum.

Operation.—The operation was performed on the 20th of March. The paring process in this case included both ends of the urethra. Four sutures were required, two upon either side of the urethra. Previous to their adjustment, a catheter was introduced into the canal to insure an accurate coaptation of its two ends. After the edges of the opening were brought together, there was found to exist along the course of the urethra a ridge, sloping off on either side, thus indicating a button of rather peculiar shape. Fig. 10 is a view of such a one as was applied.

For two or three days after the operation, the patient had a few darting pains in the region of the bladder, but they passed off without doing any mischief.

On the eighth day I removed the suture apparatus, and found union perfect. In a few days the patient got up. At first she had slight incontinence of urine, which I supposed to depend upon weakness of the parts, but in the course of eight or ten days this difficulty ceased entirely. She could now retain her urine as well as ever, and about a month after reaching our city she left it for her far-off home, perfectly delighted with the result.

CASE XIII. *Vesico-Vaginal Fistule complicated with a Total Loss of* *the Vaginal Portion of the Cervix Uteri and Closure of the Cervical Canal, of Fourteen Years' Standing; Cure by the Button Suture.*

Jane, colored girl, of this county, was admitted into my infirmary on the 23d of April last; æt. 29; of medium stature, and rather delicately formed. States that she had her first child at the age of *thirteen.* Labor in this instance was unattended with difficulty. Eighteen months afterwards gave birth to a second child, at which time she was injured, and lost the power of retaining her urine. Labor lasted about forty-eight hours; child was removed with instruments (forceps, I suppose, as the child came alive). Five or six days after delivery, first discovered dribbling of urine. Has never menstruated since; general health not good. Every month has the usual premonitory symptoms of the menstrual flow, and is relieved only by bleeding at the nose.

Examination.—Fistule of fifth class, fourth variety. (See Fig. 8, and accompanying remarks.)

Operation.—This was performed on the 8th of May. For an account of it, see Fig. 17, and the appended remarks. The drawing there exhibited was made from the button employed in the case. Six sutures, it will be seen, were required.

For several days after the operation, patient had considerable pain across the lower part of the abdomen and some fever. The latter was of a remittent type, and yielded readily to the use of quinine. Otherwise she did well.

On the ninth day I removed the suture apparatus, and found perfect union. Patient wore a catheter the usual length of time, and then got up with power to retain her urine. After a few days, she said that she felt as well as she ever did, so far as retaining her urine was concerned. I have done nothing yet towards re-establishing the cervical canal, but shall so soon as the patient's health recruits a little more.

Remarks.—This case, it must be admitted, is another extreme one, and the ease and facility with which the cure was accomplished, leave no doubt in my mind as to the superiority of the method adopted over any other which could have been selected.

CASE XIV.—*Two Vesico-Vaginal Fistules and Rent of the Urethra, of Twelve Years' Standing; Several Operations previously performed with only partial relief; Cure by the Button Suture at two operations; Reproduction of the Rent two weeks afterwards from wearing a Catheter.*

Mrs. R., formerly of this State, but now of Louisiana, visited Montgomery, in April last, for the purpose of consulting me in reference to her case; æt. 32; tall, and rather spare built; states that she was confined with her first child, February, 1845, at which time she became the subject of her present affliction. Says that labor lasted about seventy-six hours; pains at first were slight; during the twenty-four hours immediately preceding delivery took ergot; child was still-born, and of large size. No instruments were employed. There was retention of urine before and after the birth of the child. Catheter was used as often as occasion required. Five or six days after delivery first noticed dribbling of urine, which was ascertained by the attending physicians to result from a slough in the vesico-vaginal septum. In July following, patient having sufficiently regained her health, set out in company with her husband to visit Philadelphia, whither they had been advised to go, in order to secure the best medical advice of the country.

Arriving in that city, she was placed under the charge of a well-known surgeon. The actual cautery was his plan of treatment. This course was for some time persisted in with only partial if any relief. Being discouraged at this result, advice was asked of another surgeon, no less distinguished and admired by the profession on account of his teachings and his skill as an operator. This latter gentleman, I understand, employed a form of suture which, at that time and since, has attracted no little attention on the grounds of its plausibility. Three applications of this suture were made, the last of which, if I am correctly informed, was supposed to be attended with entire success; but, as the result shows, such was not the case. For this mistake, however, no blame can be attached to the operator; for almost any one would have been deceived under the circumstances.

Patient states that she derived very great benefit from these operations, being able now to retain pretty much all her urine while in the recumbent posture. Although discharged without being permanently cured by the surgeon referred to, she possessed undiminished confidence in his integrity and skill, and deep gratitude for the very great relief he afforded her.

During the time she was undergoing the above treatment, she was confined with her second child. The labor was easy and unattended with further difficulty. Since then has passed through three others with like favorable results. Her present condition is as follows: Generally she can, by lying quiet, retain the principal part of her urine all night, but even to turn in bed, or to attempt to get up, causes it, at once, to pass off. When walking about she has not the slightest control over it. General health pretty good. Menstruation regular, &c.

Examination.—Discovered two fistules of the second class. One was situated upon the right, and the other, the left, equidistant from a point corresponding to the beginning of the urethra, and a little above a horizontal line drawn through the same, being about three-quarters of an inch apart. Both were circular in shape, but the one on the right considerably larger than the left. The former is the only one I saw at my first examination, and is the only one I supposed to exist at my first operation.

The rent of the urethra was about seven-eighths of an inch in length. (See remarks upon urethral injuries in the former part of this paper.) The fistulous opening discovered, although large enough to allow a considerable quantity of urine to pass off, yet was not sufficiently capacious to account for the rapidity with which the latter escaped when the patient assumed the erect posture. Another cause, therefore, I conceived must exist, and to none could the above result be more reasonably assigned than shortening of the urethra, occasioned by the rent alluded to. Reparation, then, of this canal, I regarded of the utmost importance, with a view to a successful issue in the case.

The course I determined now to pursue was to close both fistule and rent at one operation, and in that way curtail the time of confinement. I had once before performed the operation under similar circumstances. (Case not included in these reports.) The rent in that instance closed, but the fistule did not. The failure of the latter to close, I was at that time disposed to think, resulted from some oversight or neglect in the operation. Hence my desire to give the procedure a fair trial.

Operation.—April 23d. Performed the operation as above indicated. In paring the edges of the fistule, I found them very much hardened. Only two sutures and a plain button were required. For the rent, four sutures and such a button as Fig. 9 illustrates. (See Figure 9, and accompanying remarks.)

On the third day after the operation, the catheter became choked, and had to be removed and cleansed. I had some little difficulty in replacing it, but no mischief resulted. After this the patient got on pretty well. A small wire occasionally introduced served to keep the catheter open.

On the ninth day I removed both buttons and sutures. The rent I found entirely closed, the fistule only partially. A second failure now, under similar circumstances, satisfied me that this double operation would not do. My reasons for this belief have been already stated at length. (See former article.) Patient remained in bed five or six days longer, and then got up. After a few days more, she found that there was considerable improvement in her condition. She could now sit up and walk about for some length of time with but little leakage, consisting of what I supposed passed through the small fistulous opening remaining. A short time after this, I instituted another examination, and found the fistule which I had operated upon to all appearances closed. To be certain now that I was not mistaken, I filled the bladder with water,—the only sure test in cases of doubt. To my regret, however, I found that the fistule was not closed.

Not only this, but by the same test I was now led to the discovery of the other fistule alluded to in the outset of this report.

By close inspection, I could now see a line of cicatrization extending from one fistule to the other, running just across the mouth of the urethra, and doubtless the result of the partially successful operation previously mentioned. There is no doubt, in my mind now, that the original fistule extended across the vagina in the above situation, and that by the operation or operations, performed in Philadelphia, it was closed in its centre, thus leaving an opening at each extremity.

Here were two fistules now instead of one to be closed. One operation I determined to make suffice for both, and accordingly performed it on the 21st of May. Two sutures were required to each fistule,—all introduced antero-posteriorly. The shape of the button employed is illustrated by Fig. 10; but, in point of size, it was a little longer than the representation, and the perforations, instead of being uniformly distributed, were made to correspond to the sutures in each fistule. Used the ordinary metallic catheter. Patient complained of considerable soreness from it during her confinement in bed.

On the ninth day, as usual, I removed the suture apparatus, and found perfect closure of both fistules, with a reproduction of the rent of the urethra. The latter was caused by the weight of the catheter, the newly-formed cicatrix here not having become strong enough to bear it, a circumstance to which I have heretofore alluded in connection with the general management of rents of the urethra.

The patient upon now getting up found that she had lost, in a great measure, the control which she had over her urine after the first operation. Showing very conclusively how much the incontinence depended upon this urethral injury. An operation for this accident, therefore, became necessary, and was accordingly performed on the 8th of June following, the plan pursued being the same as in the first instance. On the ninth day I removed the suture apparatus and found union throughout, excepting a small point at the upper end, the most unfortunate place at which a failure could have occurred.

Patient again after getting up found that she could not retain her urine as she had done, the opening being large enough for the greater portion of the fluid to dribble off.

Another little operation will have to be performed, which I intend so soon as my patient's health recruits a little, for which purpose she is now absent in the country.

Remarks.—This case, from beginning to last, is certainly one of no ordinary interest. The existence of a large fistulous opening in the first place; its central closure by an operation; the two resulting fistules; the benefit conferred by said operation; the question whether the rent of the urethra was, in its production, cotemporaneous or not with the establishment of the original fistule; if so, the bearing which it had upon the incontinence of urine in relation to cause and effect; the necessity of closing this equally as imporant as that of the fistule, are all points deserving notice.

As to the rent, I cannot say positively whether it was produced at the same time with the fistule or not. The patient herself thinks it was. She bases her belief upon the fact, that all her subsequent labors have been easy and unattended with difficulty, and that she has never experienced any change in the power to retain her urine, since undergoing the first course of treatment.

It is true, this case is not permanently cured, yet I have no doubt of ultimate success. And although the rent of the urethra was reproduced at my second operation, and another had to be performed, which proved to be a partial failure, still the claim to having closed both the rent and the two fistulous openings, at two operations, cannot be controverted, and is an achievement of which any operator might well be proud.

CASE XI. *Three Vesico-Vaginal Fistules; One complicated with partial Loss of the Cervix Uteri, and requiring two Operations, a small Opening remaining after the second Operation, and the two other Fistules, all successfully closed at once under the same Button, followed by a secondary Fistule.*

Jane, colored girl, of West Point, Georgia, was admitted on the 11th of May last; aged about 25, and quite fleshy; has had four children, the last being born in April, 1855, at which time she sustained her present injuries; says that labor lasted four days; child was still-born and of large size. No instruments were used in effecting delivery; during labor, passed urine regularly; five days after its completion discovered dribbling, which has continued ever since; general health good; menstruation regular, &c.

Examination.—Three fistules were discovered (although not all at the first sitting), one belonging to the fifth class, fourth variety, and the other two to the third class. (Of the first, Fig. 7 is a representation. The uterine orifice A, owing to the anteversion of the cervix, is thrown into the cavity of the bladder.) The other two fistules were quite small, and situated opposite the uterine orifice, upon the left side, and about 3-16ths of an inch from the corresponding angle of the large fistule. They were close together, one being just above the other. Owing to their diminutive size, they were not at first discovered, and consequently were not, in the outset, taken into account in planning the course of treatment thought to be best suited to the case.

First Operation.—From the division of the fistule indicated in the figure alluded to, it will be evident that two operations were required. The first, for closure of the longitudinal portion, I performed May 5th, in presence of Drs. Semple, Fowler, and Foster. Four sutures only were used.

On the ninth day I removed the suture apparatus, and found union of the parts perfect.

Second Operation, June 18th.—Having now allowed my patient sufficient time to regain her strength, I proceeded, in the presence of Dr. Weatherby, to perform the second operation indicated, and had no little trouble in the completion of its different stages. In the first place, the situation of the cervix in the cavity of the bladder, and the smallness of the opening, were two obstacles which rendered it quite impossible to denude a surface sufficiently extensive, anterior to the uterine orifice, to insure agglutination with the edge of the opposite side, an attainment absolutely demanded, in order to get the power of bringing the os uteri into the vagina, when the fistule was closed. Not only so, but as things stood, introduction of the sutures in front of the denuded surface alluded to, would have been entirely impracticable, and the height of folly even to have attempted it. I had, therefore, to enlarge the fistule, at each extremity, to the extent of nearly half an inch. This being done, I had but little more trouble in completing the operation in accordance with the plan of treatment already laid down. Six sutures were required. These, upon being adjusted, brought the denuded surfaces in perfect apposition, and forced the os uteri to the position I intended it should occupy.

Instead now of having a plane surface for the button to rest upon, as would have naturally been expected under the circumstances, a concave one presented itself. A button, therefore, bent upon its convexity was called for, being different from the one suggested in the general plan of treatment for this variety of case. (Fig. 12 illustrates the shape of such a one as was used.)

Nothing peculiar was observed in the after-treatment.

On the ninth day I removed the suture apparatus, and found union perfect, with the uterine orifice still in its normal position.

The patient, after wearing the catheter four or five days longer, got up. Found now that there was still some leakage. After waiting several days, and learning that there was no improvement in the retentive power of the bladder, I was induced to make an examination, to see if I had not been mistaken in supposing the fistule to be entirely closed. The cicatrix, however, I found as complete as could be. The leakage was now believed to arise from another cause, and in view of that I extended my inquiry a little further in search of it. Now it was that the existence of the two small fistules, described upon the left side of the large one, were discovered, which at once accounted for the difficulty. A few days after, while examining these small openings with a view to closing both under one button, I discovered just beneath them, in the line of cicatrization formed by my second operation, what appeared to be a vesicle. This I touched lightly with nit. silver, hoping that nothing of serious import would accrue from it. An examination, however, a few days later, showed that a small fistule had formed at that point, and that urine was escaping through it. With this three fistules now existed; all of them small, and what was still more favorable, upon a line with one another, ranging obliquely upwards and to the left. The distance between the lower and middle ones was about three-fourths of an inch, and between the latter and upper about one-fourth of an inch. They could not, I conceived, have been placed in a more favorable relation to each other to justify the attempt to close all three of them at once under the same button. Having on a previous occasion succeeded in closing two openings in a similar way, I was the more readily induced to hazard an effort in this instance.

Third Operation.—July 28th, assisted by my partner, Dr. J. B. Gaston, I proceeded to perform the operation above intimated. The edges of all three of the openings were pared separately. The lower one required two sutures, the second one, and the third two. All being arranged, the surface was found to indicate a button not only bent upon its convexity but slightly twisted, thus giving the edge a slightly sigmoidal appearance. This contrivance I found admirably suited to the condition of the parts.

After-treatment unattended with difficulty.

On the ninth day I removed the suture apparatus, and was pleased to find complete closure of all the openings. From the lower suture, however, had resulted a secondary fistule. Being very small, I touched it with nit. silver, hoping that it would close up in a few days, which it did.

Patient now had entire control over her urine. About a week afterwards, while examining the condition of the parts, I discovered a point quite red, just in the situation of the secondary fistule, which was supposed to be closed. This I touched lightly with caustic. Very soon leakage was found to have taken place again, and an examination disclosed the fact of the existence of a small opening at that point.

Several weeks have now elapsed, and the dribbling continues. Another operation, I am satisfied, will be required for its closure. So soon as my patient regains her health—being quite feeble at this time—I shall perform it, and thus, I hope, complete the cure of the case.

Remarks.—This case, I need scarcely say, was much complicated, and its management tedious. The result, thus far, has indeed been more satisfactory than I had a right to expect under the circumstances. The closure of the large fistule at two operations was a remarkable result. The relapse which occurred a week or ten days afterwards was unavoidable. The closure then, at one operation, of the resulting opening, and the two others which were discovered about this time, is unequalled in the whole course of my practice. Here, then, was accomplished by three operations what under ordinary circumstances would have required five, supposing the latter to have been all successful.

The secondary fistule, which is yet unclosed, was an accident, which, in spite of every precaution, is sometimes liable to occur. This, of course, can have no bearing upon the result of the other operations.

The change of the os uteri from the cavity of the bladder to its normal position in the vagina, is a feature in this case which greatly adds to its general interest, and may well claim attention on account of the novelty of the procedure adopted.

CASE XVI. *Vesico-Vaginal Fistule complicated with Narrowing of the Vaginal Canal, of Six Months' Standing; Cure by the Button Suture.*

Mrs. L., of Crawford Co., Georgia, visited Montgomery on the 27th of last April, for the purpose of consulting me in relation to her case; æt. eighteen, of small stature, and delicately formed. Her general health is very much impaired, and she is exceedingly nervous. States that she was confined with her first child Nov. 7th, 1856. Pains for the first twenty-four hours were slight, but these became very hard, and thus continued for about twenty hours, accompanied towards the last by puerperal convulsions. No instruments were used to effect delivery. Child was still-born, and of large size. Does not know whether urine was passed regularly during labor. Her husband says that no catheter was used by the attending physician. After delivery, consciousness is said not to have returned for three days. Soon after this, first noticed dribbling of urine, which has continued unabated to the present time. Did not get out of bed for two months after confinement. Menstruation then came on, and has continued regular ever since.

Examination.—Fistule of second class, oval in shape, and transverse in its longest diameter, measuring about three-fourths of an inch. On each side of it, the anterior and posterior walls of the vagina firmly adhered together, thus causing a constriction at this point, and preventing a free exploration of the organ. This obstacle, therefore, had to be overcome before any other procedure could be thought of. The plan adopted for the purpose was the same as the one pointed out for Case IX, the only difference being, that in this instance lateral sections of the constricted portion had to be made from both extremities of the fistule.

Operation.—May 20th, the parts being in a favorable condition, I proceeded to perform the operation for closure of the fistule. The edges were pared, and the sutures, four in number, introduced in the usual way. Instead, however, of using a plain button, such as is ordinarily required in this class of cases, I found that one convex upon its under surface was indicated, such as illustrated at Fig. 11. The reason of this was the thickened and indurated condition of the parts at the extremities of the fistule. Patient went through the after-treatment without any difficulty.

Ninth day. Removed suture apparatus, and found the parts as nicely healed as could be desired. Patient wore a catheter four days longer, and then got up with entire control over her urine. She left the city about ten days afterwards, feeling, she said, as well as she ever did.

CASE XVII. *Vesico-Vaginal Fistule complicated with Narrowing of the Vaginal Canal, of Five Years' Standing; Cure by the Button Suture.*

Rachel, colored girl, of Lowndes County, was admitted into my infirmary on the 1st of May last; aged about 22, of small size, and general health very much impaired. She gives the following account of herself: When very young had her first child; the labor was unattended with difficulty. Five years ago had her second child, at which time she became the subject of her present affliction. In this instance, labor lasted three days; the pains were severe the whole time; child was removed with instruments, dead; thinks that the urine passed off regularly during labor. A couple of days after delivery first noticed dribbling of urine.

Examination.—Fistule of third class; oval in shape; its longest diameter transverse, and measuring something over one inch in length. The whole vaginal canal was very much contracted at this point; indeed, so much so, that it was with difficulty the cervix uteri could be seen. This obstacle was overcome in the same manner as pointed out in Case IX.

Operation.—July 7th. The parts being considered in a favorable condition for closure of the fistule, I proceeded to perform the required operation in presence of Drs. Semple and James. When the sutures were adjusted, the surface upon which the button was to stand was found to be concave, produced by the same cause that existed in the preceding case. A similar button, therefore, to the one used in this case, was here called for (see Fig. 11); the only difference being that, in this instance, it was required to be a little longer, and have another perforation for an additional suture.

Ninth day. Removed suture apparatus, and found a perfect cure. After eight or ten days, patient was discharged.

CASE XVIII. *Vesico-Vaginal Fistule of Ten Years' Standing: Cure by the Button Suture.*

Ann, colored girl, of this county, was admitted on the 13th of July last;

aged about 28; a little above medium stature, stout, and rather heavily built. States that she was confined with her first child in her eighteenth year. Labor lasted about six days; had no trouble in passing her urine during the time; child was stillborn, and of large size. No instruments were employed to effect delivery. Four or five days after delivery first noticed the dribbling of urine. Says that this continued for a month, and then ceased entirely. With her next child she miscarried at seven months. In this instance had labor-pains two days. Very soon after delivery noticed dribbling of urine again, which has continued uninterruptedly to the present time. Had her third child four years ago; by this, no change in her condition was produced. Says that her general health has usually been good; menstruation pretty regular, &c. Her appearance now indicates an average state of health.

Examination.—Fistule of fifth class, first variety, quite small, and complicating the anterior lip of the cervix uteri near its centre.

Operation.—This was performed on the 18th of July, in the presence of Drs. Weatherby and Gaston. (See plan pointed out under the head of treatment for the above variety of cases.) Only three sutures were required. There was nothing deserving notice in the after-treatment.

Ninth day. Removed suture apparatus, and found a complete cure the result. A couple of weeks afterwards patient went home entirely restored.

Remarks.—This case I regard as interesting as an instance in which the fistule healed spontaneously, and was reproduced by a subsequent labor. Such was the course of things, if the patient's statement can be credited. The circumstance is certainly very remarkable, and therefore deserves a passing notice.

CASE XIX. *Vesico-Vaginal Fistule of Nine Months' Standing: Cure by the Button Suture.*

Jane, colored girl, of Columbus, Mississippi, was admitted into my infirmary, July 31st. Aged about 28, of medium stature, stout and heavily built. States that when in her nineteenth year she gave birth to her first child. Since then has had five others, all at full term. Labor unattended with trouble in all, excepting the last, which occurred in December, 1856, at which time she became the subject of her present difficulty. Says that, in this instance, the labor lasted eight days. The child, though dead and of large size, was born in the natural way. Recollects passing her urine regularly until just before the completion of labor. Two days after delivery first noticed its dribbling. Did not get out of bed for four months. After this, general health began to improve, and very soon menstruation came on.

Examination.—Fistule of fourth class, first variety. In a letter to me from Dr. J. W. Hopkins, also of Columbus, it is thus accurately described: "The fistule is of large size, sufficient to admit the ends of two fingers, and occupies most of the space described as the vesical triangle, particularly including the apex, or opening of the urethra, extending rather more to the right than left side. Here (upon the right) the loss of substance by sloughing was so great that the pubic arch is barely covered, affording little chance of paring the tissues in order to secure a union of the edges of the fistule. A catheter passed through the urethra comes readily into view as it emerges at the inner end, so completely is the trigonus vesicalis destroyed.

"The vagina seems much contracted, as also does the bladder. There is as yet no excoriation of the parts, either external or internal. The edges of the fistula are indurated, and, as I found upon trial, difficult to cut." He further adds: "I have attempted an operation, although I did not have much hope of success. The result realized my apprehension."

Fig. 2 is a fair illustration of this variety of cases, such as is generally met with; but there was, in this instance, a marked deviation, as appears from the above description. The fistule, instead of being transverse in reference to its longest diameter, and directly across the beginning of the urethra, presented its long axis oblique, its left extremity resting, so to speak, upon the root of the urethra. It measured about an inch in length. But little of the septum, to the left of the mesial line, was injured. Such a peculiarity I had never before met with. Across the upper end of the opening, I may also add, there was considerable constriction of the vaginal canal. This I had to overcome by deep incisions and the use of tents, before closure of the fistule could be thought of.

Operation.—Sept. 7th. Everything being in readiness, I proceeded to perform the necessary operation in presence of Drs. McLester and Gaston. (Fig. 11.) Five sutures were required. The button, after being bent upon its convexity, was found not to fit the parts until it was twisted in a way similar to that described in the construction of the button employed in my third operation for Case XV. After-treatment unattended with any special interest.

Ninth day. Removed suture apparatus, and found union perfect throughout. Patient wore a catheter the usual length of time, and then got up.

At the time of this writing,—ten days since the result was known,—my patient is going about quite merry, being now able to retain her urine three or four hours, without inconvenience. In a few days more she will have as good control over it as she ever had.

Remarks.—The history of this case fully explains its importance, as well as the difficulties I had to encounter in the operative procedure. The result, therefore, needs no comments. It speaks for itself.

Resumé.—Such, then, is the character of the cases of vesico-vaginal fistule that have come under my care, and such the results of my practice. It remains now for me to take a glance at some facts relating to the cases as a whole.

By reference to their histories, it will be seen that six of the accidents took place under the age of 20; seven between 20 and 25; while only two occurred at a later period,—ages 28 and 33 respectively. Six took place at first births; two at second; four at third; one at fourth; one at sixth; and one at ninth. In nine of the cases instruments were employed to aid in delivery; in six no artificial means was resorted to. The shortest duration of labor in any one of the cases was thirty-six hours, and the longest eight days, the average being about four days. In one case, dribbling of urine was observed in twenty-four hours after the completion of labor. The average length of time, however, at which this usually takes place, is, so far as I have been able to determine, about four days. Judging from the nature of the fistulous openings in the cases where instruments had been used, and where they had not, I am forced to the conclusion that nearly, if not all of them, were the result of sloughing.

The fifteen cases, embracing, as we have seen, twenty fistules, required twenty-two operations. Case V, two; Case XI, two; Case XIV, three; Case XV, four; all the others, one each.

Twenty-four operations have been performed, and two are yet required. One of the extra operations was performed for an accident which occurred in Case V, and the other was required from the partial failure of a preceding operation in Case XI.

One of the operations yet to be performed is in Case XV, and is for a secondary fistule,—in this instance, an unavoidable accident. The other is demanded in Case XIV, on account of the partial failure of the third operation.

Only two of my operations, therefore, out of the twenty-four, can properly be regarded as failures, and these only partially so.

ART. II.—*Observations on the Diversity of Symptoms in Scarlatina Maligna.* By GEORGE SUTTON, M.D., of Aurora, Dearborn County, Indiana.

THERE are few diseases that Western physicians have to encounter, that are more terribly fatal than the malignant form of scarlatina. Prevailing at different periods, under different grades of violence, we see scarlatina at one time in an epidemic form, so mild as scarcely to require the aid of the physician, and at another, in a character so malignant as to baffle all medical treatment and equal the most deadly epidemics in the rapidity with which it destroys life. Why this disease should, at different periods, assume such different forms in the same localities, apparently under precisely the same circumstances, must, I suppose, be attributed to those unknown causes which favor the spread of epidemics over the globe.

Within the last twenty years scarlatina has prevailed in the southeastern portion of Indiana, at different times, under the most opposite forms of violence. A brief review of the epidemics of this disease, which have prevailed in Dearborn County since 1836, may probably afford some interest, as showing the periods in which scarlatina has assumed, in this section of country, the mild, the inflammatory, and malignant varieties.

Dr. Drake tells us, in the sixth volume of the Western Journal of Medicine, page 348, that scarlatina prevailed extensively throughout the valley of the Ohio, in the year 1831. That year, I have been credibly informed, scarlatina prevailed as an epidemic in Dearborn County, and assumed at Hartford, in this county, its most malignant form. In the fall and winter of 1837, the disease prevailed as an epidemic in the northern portion of the county; it presented an inflammatory form, and appeared to require an antiphlogistic course of treatment. This epidemic did not prevail at Aurora, or in the southern part of the county. In 1845 scarlatina prevailed (although not extensively), in the neighborhoods of Aurora and Wilmington; it assumed the mild and anginose varieties; but few deaths occurred from the disease, and it was seldom difficult to manage. In 1847 notices appeared in the public papers of the prevalence of scarlatina, in a malignant form, in different portions of the State. In the spring of 1848 it was prevailing in Dearborn County, and on the 22d of August it suddenly appeared at Aurora, and prevailed in a form entirely different from that it had ever assumed in this town, or even this section of country before. The first cases were in two families who resided within a few feet of each other, on the side of the public highway, near the outskirts of the town. A child in each family was attacked the same day. The disease at first appeared to spread from these cases as if by infection, but it soon became epidemic, and we were then unable to perceive, in many instances, any connection between the cases that occurred. It continued with great malignancy during the winter, generally appearing with fresh violence just before damp or wet weather, and gradually subsided and disappeared in the latter part of February. Nearly every case was asthenic in its character: in some instances it was rapidly fatal, death occurring in from eight to twelve hours after the attack. It presented a variety of symptoms, sometimes so opposite in their character as almost to appear like different diseases: it was principally confined to children, but no age was exempt. Adults were frequently attacked with scarlatina faucium, and I thought that we had evidence that it was occasionally spread by this form of the disease. It was highly infectious, and there were instances in which the infection appeared to be communicated by the clothing of persons who had been attending on the sick. These were some of the prominent features which this terrible epidemic presented.

Scarlatina prevailed at this time in a malignant form at Lawrenceburg, also in Switzerland County. In a letter which I received from Dr. Wm. Tate, of Lawrenceburg, he writes, "that out of twenty cases of malignant scarlatina, which at that time (Nov. 19th) had come under his notice, fifteen had proved fatal. Of nineteen cases of scarlatina anginosum, four were fatal; of ten of scarlatina simplex, none, of course, were fatal." We had but few cases during this epidemic that were mild. Shortly before the disappearance of scarlatina, measles began to prevail not only in Aurora, but in the surrounding country. The latter assumed an asthenic or malignant form, and continued in force during the months of March and April, and disappeared in May. On the 11th of June, cholera existed at Aurora as an epidemic. It was supposed to have originated from some cases left by steamboats, as they ascended the Ohio River. This disease continued to prevail, in its most deadly form, for six weeks, destroying, in some of the squares, more than half the inhabitants. Why all these diseases should have assumed such malignancy at this period it is difficult to tell. There were no local causes that would be more likely to develop the malignant forms of disease at that period than any other. The condition of our town at that time was similar to what it has since been, when scarlatina assumed its mildest form. In the spring and summer of 1853 scarlatina appeared again at Aurora as an epidemic; also in different parts of the county. At Aurora the disease presented the malignant, the anginose, and mild varieties. Although we had many cases of the malignant form of the disease, still this variety was not so common as it was in 1848–9. In the fall of 1856, after an unusually dry and healthy summer, scarlatina again made its appearance at Aurora: it continued to prevail during the winter and disappeared in the spring. This time the malady assumed an unusually mild form; a large proportion of cases did not require medical treatment. About the middle of March, measles began to prevail; since that time this disease has prevailed more extensively in this section of country than it has done *for the last twenty years,* but in a remarkably mild form. During the summer, pertussis has also prevailed extensively throughout this section of country. The continual influx of strangers into the town during the construction of the Ohio and Mississippi Railroad, may probably have favored the frequent prevalence of scarlatina as an epidemic, as there were but few children in Aurora, after the epidemics of 1848–9, and 1853, that had not been attacked with this disease.

Wilson, in his work on diseases of the skin, states that "It is deserving of remark, that the disease (scarlatina) is not always confined to the human race;" that "during the prevalence of this epidemic it appears that horses suffered from a similar affection, colts from acute enteritis; cattle, sheep, and pigs from phlyctenoid fever, the latter diseases being very probably the epizootic which occasioned so much devastation in England during the past year."

It is worthy of notice, since exanthematous diseases have recently been so prevalent in this section of country, that during last summer and fall, there existed a remarkable epizootic amongst the hogs, not only in Dearborn County but in other portions of the State; also in Ohio and Kentucky. The disease spread over the country, and these animals died by hundreds and thousands. Some of our farmers lost almost their entire stock—from seventy to eighty out of the hundred. This malady had some appearance of an exanthematous disease; but I think that it has not its exact resemblance amongst the diseases to which the human system is subject. From some experiments and examinations that I made, for the purpose of ascertaining whether this epizootic resembled any of our epidemic diseases, I came to the conclusion that the malady was intermediate between erysipelas and some of the specific eruptive diseases, partaking of the nature of each: it was, like the eruptive diseases, highly infectious, the infection having a period of incubation of about thirteen days; and the animal had the disease but once: but, like erysipelas, it presented a form of diffusive inflammation, which spread along the different tissues, presenting a great variety of symptoms; sometimes it attacked the mucous membrane of the alimentary canal, producing diarrhœa, which has caused the disease to receive the name of "Hog Cholera." It is a singular fact, that the healthy summer of 1856 should have given rise to so fatal a disease amongst some of our inferior animals. Whether exanthematous diseases have existed over the whole country, in which this disease amongst the hogs has prevailed, I cannot say.

During the epidemics of scarlatina, in 1848–9 and 1853, I frequently met with the violent and opposite forms which this disease sometimes presents, and which, I think, have not been as fully described in our medical books as they deserve. From notes which I took at the time, the malignant variety of scarlatina may, for the sake of description and directing attention to its different forms, be subdivided into the four following modifications:

1st. Where the system is suddenly prostrated at the commencement of the disease, as if from a severe shock upon the organic nervous system.

2d. Where the violence of the disease is directed to the brain, producing congestion or inflammation of that organ.

3d. Where the alimentary canal is the principal seat of irritation, producing symptoms resembling a violent cholera morbus.

4th. Where the disease is principally directed to the throat and respiratory passages.

These appeared to be the principal modifications of scarlatina maligna, which, either single or under different combinations, were present in every case that I have met with.

A few remarks upon these subdivisions will show, I think, the symptoms in each to be as distinct as those upon which is founded the division into the mild, the anginose, and malignant varieties.

The attack in the first form is generally sudden; sometimes there are, for twenty-four or forty-eight hours previous, the usual premonitory symptoms of scarlatina, but no symptoms calculated to create alarm. The child, probably, although feeling unwell, may be at play or walking about, when it is suddenly seized with sickness at the stomach, and vomits, or feels faint; then the most alarming symptoms soon become manifest and rapidly increase. The pulse soon becomes extremely frequent, small, and easily compressed. The respiration is irregular, the countenance pale and deathlike, and as the disease advances, the eyes become sunken and inexpressive, and the skin cold. The throat is sometimes but slightly inflamed. The tongue is generally moist, and covered at first with a thick coat. Sometimes the patient is restless, at others inclined to doze, but is easily aroused, and answers questions correctly. Different grades of reaction occasionally take place. In some instances the rash, of a purple color, appears and disappears, and the patient lingers for several days. I have seen reaction take place, the rash come out over the body, and the patient recover after there had been the most alarming symptoms. In other instances the disease was very rapid, death occurring in from eight to twelve hours after the attack. In this form of the malady, the throat was frequently but little affected, and there was sometimes but little cerebral disturbance. The whole nervous system seemed to be suddenly depressed, the symptoms resembling those in which the impression is more upon the *heart* than upon the extreme *bloodvessels*, producing effects more nearly allied to syncope than congestion.

In all of our epidemics, we have met with a number of cases where the violence of the disease was directed to the brain. This modification of scarlatina is familiar to every physician. It may be in the form of active congestion, producing convulsions, or in a sthenic or asthenic form of inflammation. Tweedie tells us, in his article on scarlatina, that "When there have been violent delirium and other symptoms of cerebral excitement, the arachnoid membrane is vascular, or even opaque, with effusion of a serous or sometimes milky fluid underneath. In such cases, the substance of the brain is also unusually vascular." The symptoms of inflammation of the brain or its membranes are often prominent, and form a marked contrast with the first modification of the disease. We have, in this cerebral form, fever, pain in the head, continued delirium, throbbing of the carotids, quick pulse, flushed face, suffused eyes, intolerance of light, &c.; almost every symptom different from those presented in the other form. The fauces in this variety are not always much inflamed. The skin is dry, and patches of rash may be seen over different parts of the body, sometimes florid, at others of a dark color. Convulsions or coma generally terminate the case. Convulsions occurring in the early stages of the disease, depending upon active congestion, may be followed by inflammation of the brain, and the symptoms mentioned. In some instances the convulsions are followed by coma, small and irregular pulse, livid appearance of the skin, pupils largely dilated—the symptoms resembling the congestive form of intermitting fever which we frequently meet with in this section of country.

The third modification of the disease, where the irritation is directed to the alimentary canal, was of common occurrence in the epidemic of 1848–9, and was sometimes rapidly fatal. Like the other forms, this may be sudden in its attack. The child is seized with vomiting; diarrhœa soon follows, the discharges being frequent, copious, and watery, at first of a yellow color, soon becoming almost clear. The efforts at vomiting are frequent; the thirst constant; patches of a livid-colored rash can sometimes be indistinctly seen about the neck or over different parts of the body; the tongue is moist and heavily coated; the throat slightly inflamed; the pulse remarkably small, feeble, and frequent; respiration labored and irregular, frequent disposition to make a long inspiration; the countenance contracted, and the eyes sunken. Death sometimes takes place in from ten to twelve hours; the symptoms often very much resembling those of cholera. We had a number of cases of this character following each other in rapid succession. They occurred in January, a season of the year when we could not consider the disease as complicated with cholera infantum, which is seldom prevalent, except in the summer and autumn. A few cases may assist in illustrating this form of the disease.

Columbus Baily, aged six years, was attacked, January 26th, 1849, with vomiting, about five o'clock in the morning; he soon afterwards had diarrhœa. His mother gave him some laudanum and camphor, which appeared to check the disease. During the forenoon he was slightly feverish, and an indistinct appearance of rash could be seen on the forehead, neck, and breast; at half-past twelve o'clock he was again suddenly attacked with vomiting and purging. At one o'clock I was sent for. Shortly after I entered the room he had a profuse serous discharge from his bowels, an unusually large operation for so small a child. The vomiting was very frequent and distressing; the pulse small and rapid; the countenance pale and shrunken; thirst almost incessant; tongue coated and moist; the eyes were sunken; the skin became cold, and the child sunk into collapse, and expired in a slight convulsion about nine o'clock in the evening. His mother informed me that he appeared perfectly well the day before. I treated the case with stimulants, anodynes, astringents, counter-irritants, &c. &c. Had cholera been prevailing in this section of country, I should certainly have thought this case complicated with that disease.

A few days after the occurrence of this case, David C., between four and five years of age, son of the Rev. J. C., of this town, was attacked about four o'clock in the morning with vomiting and purging. When I saw him, about seven o'clock, his pulse was remarkably rapid; vomiting and purging frequent; discharges serous; tongue moist; throat slightly inflamed, of rather a purple color; mind clear. During the day there was an indistinct appearance of rash over different parts of the body, giving the skin a mottled appearance. The symptoms of prostration continued to increase, and the child died about eight o'clock in the evening. This patient appeared well the day before, and ate his evening meal as usual.

On the 23d of January, 1849, Mr. J. Noble, of this town, called on me to attend his daughter, aged eight years. The child was attacked suddenly with vomiting and purging; her pulse was small and feeble; the skin was cold, and had a livid appearance; there was great prostration, restlessness, incessant thirst, and nearly all the symptoms described in the other cases. Mr. N. informed me, that six days previous he lost a daughter five years old, with almost precisely the same symptoms, after about ten hours' illness. I resorted to an active course of treatment with stimulants, astringents, and revulsives, and, contrary to what I expected, reaction took place; the rash made its appearance, though not very generally, over the body, and the patient passed through the disease more favorably than many cases did that commenced with milder symptoms. We had a number of cases of this form of the disease. The rash seldom came out well, and in those that recovered there was but little exfoliation of the cuticle. It appeared to me that in all the forms of malignant scarlatina, the sudden depression of the system generally occurred *just as the rash was making its appearance*, and in this form, where the violence of the disease was directed to the alimentary canal, I could not avoid the conclusion, when I saw sometimes in the same family the rash coming out over the whole mucous membrane of the mouth and fauces, and the epithelium of the tongue peeling off, that the rash might also be directed to the mucous membrane of the alimentary canal and produce a violent form of gastro-enteritis, or a peculiar form of congestive diarrhœa.

Wilson states, in his work on Diseases of the Skin, that "The primary fever of scarlatina maligna is of longer duration than that of the two preceding forms of the disease; the cutaneous eruption not appearing until the third or fourth day." This, I think, is not always the case. I have seen the rash appear on what I thought was the first day of the attack. Wood, in his Practice of Medicine, says that the rash makes its appearance "sometimes at the very commencement, so far as can be determined from statements of the patient or his friends." This agrees with my experience, and I think will apply to all forms of the disease.

The fourth form of malignant scarlatina, where the violence of the malady is directed to the throat, is the usual form of the disease, and is so accurately described in our medical books that it would be useless to give a repetition of the symptoms. It differs as widely in its symptoms from the other modifications as they do from each other.

These appear to be the most distinct or extreme forms of scarlatina maligna. Subdivisions of this disease may probably be considered unnecessary, and perhaps they are, but if these divisions assist in directing attention to the different appearances which this malady occasionally presents, or in any way throw one ray of additional light upon a disease which has destroyed its myriads, and which has not yet ceased from its work of death, the object for which they were made will have been accomplished.

It is scarcely necessary to mention, that these forms may be met with under various combinations, presenting a great diversity of symptoms.

Death may occur in scarlatina, 1st. From shock to the nervous system; sudden depression of the vital forces; 2d. From congestion; engorgement of some of the principal organs; 3d. From inflammation, either sthenic or asthenic.

The treatment of a disease so protean in its character must be almost as various as the forms of the malady are different; and cases occur in which the treatment must differ as widely as the treatment of cholera from that of meningitis, or croup from congestive fever. In treating scarlatina, I have regarded the disease as capable of assuming the mild, the inflammatory, and malignant varieties. This division, like the subdivisions in the malignant form, directs attention to the principal modifications in which the disease may appear. The mild, from the little derangement produced in the system, requires but little treatment. The inflammatory, from the violence of the reaction, being often complicated with inflammation of the throat, the brain, or some other part of the system, requires at first an antiphlogistic treatment. The malignant, with the modifications already described, requires treatment adapted to each, and at the same time remedies to sustain the powers of the system.

During six months of almost daily practice in this disease, I tried a great variety of remedies; some, I thought, produced good effects, others did not meet my expectations. Emetics of antimony or ipecacuanha, mercurial or active cathartics, and all medicines which have a tendency to depress the powers of the system, are justly considered dangerous remedies in scarlatina maligna. I have, however, in the low forms of the disease, seen most excellent effects from the salt and mustard emetic, which, I believe, is not a new remedy, although I cannot find it recommended in any of the works that are in my possession. I was induced to try it in the case of a little child that was suddenly prostrated with the disease. This child had vomited and thrown up undigested food, and suspecting that the stomach might be overloaded, and fearing, from the feeble and rapid pulse, to give either antimony or ipecacuanha, I administered an emetic of salt and mustard; this produced a good effect, reaction took place, and the child finally recovered. I afterwards prescribed the same in a number of instances, and its operation has pleased me so well that I now regard it amongst the best remedies we possess in bringing about reaction in the low forms of this disease. When the system was suddenly prostrated at the commencement of the attack with symptoms similar to syncope, a stimulating course of treatment appeared to be the only one indicated, and, with me, was the most successful. A mustard emetic, followed by the hot bath, or friction with the bare hand, dry salt, or cayenne pepper, or plasters of mustard or cayenne pepper over the stomach, spine, and extremities, and the administration of either carbonate of ammonia, quinine, camphor, capsicum, brandy, or an infusion of serpentaria, as the symptoms indicated, were the remedies principally depended upon. It is unnecessary to give the treatment of the disease in detail, as it presents nothing very unusual or very satisfactory; a mere outline will show the course we generally pursued.

When we succeeded in bringing about reaction, sometimes little had to be done, except occasionally to give the acetate of ammonia, or an infusion of serpentaria, or some mild remedy. In other cases, the powers of the system had to be sustained with active stimulants,—quinine, &c. &c.

When the violence of the disease was directed to the brain, if there were symptoms of inflammation, we depended upon local bleeding, cupping the back of the neck, or behind the ears, the temples, &c. Also applied cold to the head; gave cathartics, diaphoretics, and sometimes stimulating enemas; sinapisms were applied, if the rash was not out well, to the extremities, and over different parts of the body. I cannot say that I ever saw much benefit from bloodletting in any form of scarlatina. When there was evidence of congestion of the brain, with cold skin, small and feeble pulse, deep coma, &c., after other remedies had been tried, I have seen benefit from the following treatment: Hold the child over an empty tub; dash three or four pailfuls of cold water over the head in rapid succession; immediately after apply mustard plasters, as hot as can well be borne by the hand, to the back of the neck, throat, back, breast, and arms; let these remain on for a short time, or until they redden the skin; if reaction does not take place in the course of two or three hours, repeat this treatment. In addition, let the feet be immersed in warm water, and administer stimulating enemas.

When the disease was directed to the alimentary canal, I treated it with stimulants, anodynes, astringents, revulsives, and counter-irritants. The hot mustard bath and mustard emetics are remedies from which, I think, I have seen good effects in this form of the disease.

When the throat was the part principally affected, acidulated and astringent gargles or washes, or an infusion of capsicum and vinegar as a wash; and if ulceration existed, the application of a strong solution of the nitrate of silver, were the local remedies principally depended upon. Carbonate of ammonia, brandy, quinine, serpentaria, were also administered in the low form of the disease. The chlorate of potash, I thought produced, in many instances, good effects. These remedies were prescribed as symptoms required; at the same time, the powers of the system were sustained with a light, nutritious diet. The best external application that I know of is a piece of fat bacon. This domestic remedy is generally used by the people in diseases of the throat, and it is one to whose efficacy in scarlatina I can bear testimony. Liniments, sinapisms, or blisters, are either too transient in their effects, or are too severe. This remedy brings out a fine vesicular eruption, which produces a constant and sufficiently irritating effect. A piece of bacon is shaped so as to fit the throat from ear to ear—I generally sprinkle it thickly with salt—and, when once applied, it does not require changing. I now invariably apply this remedy as soon as I am called to attend a case of scarlatina, and I think it frequently prevents the throat from becoming very much affected. I tried inunction, as recommended by Dr. Scheneman, in several cases of the inflammatory form of the disease, but I cannot say that I saw any beneficial effects from this treatment. The form of scarlatina in which the throat is the principal seat of the disease, is not the most fatal, but frequently very lingering, and the rash continues out much longer than in the other varieties.

A specific disease, like scarlatina, which requires a certain period for it to pass through its evolutions, often depressing, at the very commencement, the powers of the system, at the same time giving rise to local inflammations of an asthenic character, must, from its very nature, be difficult to manage, and will too often baffle the best directed efforts of the physician.

Belladonna was given as a prophylactic; but seeing children attacked with the disease while taking the medicine, I lost all confidence in it, and perhaps discontinued it before I had given the medicine a thorough trial.

ART. III.—*Psychology of Acute Rheumatism.* By ALBERT T. WHEELOCK, A.M., M.D., Author of Boylston Prize Essay for 1838, &c. &c. Belfast, Maine.

THIS title is selected, because it is as convenient as any other, for the purpose of an *exposé* of the *mental and moral conditions* connected with the access of acute rheumatism.

American physicians, as a class, have given comparatively much attention to the means of preventing disease, and to hygiene, or the moral, mental, and physical methods of cure apart from the use of medicine. Eminently an inventive people, may we not justly expect very important improvements here, in consequence of this especial characteristic. The result may be to lessen the number of physicians needed by the community. There may be less medicine purchased and used. Truth, nevertheless, in this country of all countries in the world, is never to be feared. The physiological knowledge, now in wide practical diffusion, is mainly of course due to the researches of scientific medical inquiry. The race is already improved, and is being more so, at the present time, from the same cause; how far these inquiries are to extend and the consequent improvements to continue, we can judge only from analogies. What more noble and philanthropic, then, than to lead one's exertions to still farther multiply this kind of truth, resting quite assured that what will benefit the masses will enure to universal mutual benefit.

To prevent disease, it may, of course, be generally necessary that the cause be understood. Not that many of the causes of contagious diseases may be removed in the present state of society,—such, for example, as rubeola, parotitis, scarlatina,—the direct cause being a proximity to the affected; the result, a disease of the like kind with that of the previously afflicted person.

From an improved medical science, the causes of all diseases *may* be as well understood as is now the producing cause in well-known contagious maladies; that is, the *rationale* of the production of any given disease may be discovered, simply and thoroughly explained, and demonstrated.

For the last hundred years no definite improvement has been made in this regard. Indeed, is the cause of any of the inflammatory diseases settled upon sufficient and thorough observation, so that no farther proof is called for to satisfy a philosophical observer? Is there not a multitude of causes laid down with more or less indefiniteness, to which is ascribed the production of any one of these diseases? Is not our information unsatisfactory, when compared to a definite, mathematical, and invariable statement of the cause?

A definite cause discovered directly producing any one of these diseases, affords a valuable stand-point from which to make similar discoveries. At least it affords encouragement that may lead to like observations in regard to some other diseases.

Needful observations, careful, definite, and intelligent, from the peculiar nature of such inquiries, are not easily made, so many circumstances, such as varieties of climate, varieties of habits, varieties of constitution, hereditary or acquired, are to come into account. There is this consolation, however, for those who would make such observations, that there are at this time a large number, and that number constantly increasing, who will understand and appreciate; and that superficial inquiries, based on ill-considered or too small a number of facts, or, in reality, on none at all but visionary ones, do not long hold competition with them; that the time is gone by when mere theories plausibly maintained are to be received as of equal value with opinions based upon facts and laborious investigations.

The materials in reference to the disease named at the beginning of this article, collected during a period of twenty years of professional experience, consist of observations of fifty-four cases of acute rheumatism. The patients were sufficiently intelligent, and the inquiries, new to them as well as to the other attendants, were, no doubt, altogether unexpected, but at once understood, and their propriety and pertinency admitted; all these inquiries and statements became confirmatory of a principal truth, viz.:

EVERY ACCESS OF ACUTE RHEUMATISM IS IMMEDIATELY PRECEDED BY A SPECIAL MENTAL CONDITION.

Nothing of the kind has been, to my knowledge, laid down by any of the medical writers of England or America; and during the past season an opportunity was afforded to make personal inquiries of several leading physicians in Paris, who, with unanimity, confirmed my previous belief, that nothing like it had been recorded by the best-known writers of France or Germany. The medical opinion, based on the accompanying facts, was then written by me in the French language, and published under the auspices of the Minister of Public Instruction.

The theory is, that cold and mental agitation PRODUCE acute rheumatism.

The cases given, selected not entirely at random, but to show the production of the disease in various aspects, were well marked, attended by fever at the outset, followed by extreme muscular prostration, and continued generally several months.

Obs. I.—G. P., mechanic, age 19, an orphan, had, by several years of industry, saved a few hundred dollars, which he had lent to a friend in mercantile business. On learning that he was likely to lose his hardly-acquired fortune, which was his all, as far as money was concerned, was very anxious respecting it, both by fear of losing it and in devising means in regard to it, so much so as to have remained without sleep or appetite for several days successively. During the period passed in this manner, by some neglect, he became exposed to a sudden suppression of the perspiration by cold. A severe attack of rheumatism immediately came on, attended by violent pain in several parts of the body, and by extreme muscular prostration; disease continuing several months.

Obs. II. W. A. O., aged 40, unmarried, while on a voyage from Liverpool to Boston, the latter part of the winter season,was in a gale of wind for fifteen days, and during the whole of that time constantly apprehending serious injury to the ship, or a complete and fatal shipwreck. He had made his own fortune, had always been heretofore successful, and was a large owner in the ship. During the first days of this stormy period he was much exposed to the weather, and of course very anxious concerning the present situation of himself and crew. At this time he experienced a severe cold, and a few days after was prostrated by an attack of acute rheumatism. On arrival in port, being removed to the hospital, he remained some months there, and, on discharge, continued incapable for business several months thereafter: finally, complete recovery.

Obs. III. C. A., aged 25, had an intimacy with a near relative, and she had become pregnant by him. Both were well known to a large circle of acquaintance, and in a situation rendering the consequences likely to be publicly exposed. Planning various methods of concealment, and attempting to carry them into execution, under the greatest mental excitement and anxiety, he became exposed to severe cold, rapidly followed by an attack of acute rheumatism, the more serious effects of which lasted several months.

Obs. IV. E. T., nurse, aged 30, unmarried, of much valuable experience in her present vocation, was to attend her sister during an approaching confinement, generally unusually critical. Learning by telegraph that her sister had been confined prematurely, she was exceedingly anxious to obtain an immediate conveyance to her. While under this mental excitement, making unaccustomed exertions to succeed in her object, neglecting usual precautions, she experienced a sudden suppression of the perspiration by cold, and suffered a most severe attack of rheumatism; was in the greatest agony of pain for several days, soon followed by extreme prostration.

Obs. V. B. A., clergyman, aged 40, married, nervous sanguine temperament, bilious habit, of unusually social disposition, happy in his domestic relations, accomplished in education, lost, by sudden death, an only child, a son of eight years. The affliction produced nervous excitement amounting to partial insanity. While attending to some customary manual labor and exercise, during this mental disturbance, he became wet in a shower of rain, and, neglecting precautions, experienced a severe cold. Rheumatism succeeded, attended with extreme mental and bodily prostration for some months.

Obs. VI. J. K., farmer, aged 20, married, living in a newly-settled district, clearing up his land in the forest and making a farm, was laboring every day in the week to have his crops sown in suitable season. Having conscientious scruples against working on the Sabbath, he suffered much anxiety and self-reproach on that account. During this time, a severe cold, in consequence of the negligence produced by his distracted state of thoughts, preceded an attack of rheumatism of five months' duration.

Obs. VII. M. C., merchant, aged 35, married, contracted gonorrhœa from a woman of the town. While suffering anxiety of mind, in much fear of the discovery of his faithlessness by his wife and friends, and attending to customary employment, by some neglect he experienced a severe cold, which was immediately succeeded by an access of acute rheumatism of several months' continuance.

Obs. VIII. G. B. M., medical student, aged 23, was candidate for house-physician to a hospital, which position was to be the consequence of successful oral examination and thesis. Being embarrassed pecuniarily, he much desired the situation, and also because he considered it honorable under the circumstances. He was for six months engaged in preparing the dissertation. As the examination approached, he exerted himself very laboriously in his studies, and had much anxiety in regard to the result. Succeeding some active physical exertions, he suffered a sudden diminution of the vital heat of the body by cold, which was immediately followed by a lengthened attack of acute rheumatism, several partial returns of which were subsequently experienced.

Obs. IX. C. H., a jeweller, aged 26, had pursued his occupation successfully for two years in a new and flourishing city, when, being obliged to vacate his premises in consequence of the sale of the building, he found much difficulty in obtaining another. He spent several days unsuccessfully in inquiring about the place for that object. He was of a somewhat delicate habit physically, made more so by sedentary employment within doors; and while exerting himself in this unusual manner, being much depressed and anxious at the time, he became exposed to sudden cold, the consequence being an access of acute rheumatism, which recurred at several subsequent periods of his life.

Obs. X. J. R., female, married, aged 29, of an amiable and affectionate disposition, temperament nervous, of unusual sensibility, had been for two or three weeks making preparations for an entertainment of numerous friends at her house, in a place where little assistance of the kind required could be obtained conveniently. As might be expected in a person of such characteristics, she was quite anxious that everything should pass off to entire satisfaction, and, during the evening of the entertainment, was exposed to a strong draft of air while receiving her guests as they successively arrived through the opened doors. During the evening she was able to attend to the duties as hostess; the following day commenced an attack of rheumatism, the disease continuing through the period of four months.

Obs. XI. B. W., a young professional man, aged 24, had an urgent engagement several miles from his residence, and was unjustly disappointed in his expected means of conveyance thither. While very much vexed, and anxious about the consequences of his delay, he went hurriedly to seek another conveyance about the town, and obtaining a private carriage, he jumped into it in a state of high perspiration and drove rapidly off. The next day was the commencement of a severe and lengthened rheumatic attack, the case being attended with the usual pain, and physical and mental prostration.

Observations similar to the preceding, five times in number, made in a series of years, affording no exception against the proposition above enunciated, its converse also being equally found true, that no case of rheumatism has been observed not traceable to a special mental disturbance previous, have settled indubitably, in my opinion, the connection between the phenomena described and the disease, acute rheumatism.

What, then, is one of the most important indications in treatment? It is of course to bring into operation the requisite moral influences. The patient is to be made to understand the true nature of the disease and its cause; a reaction is very frequently produced thus, at the discovery and belief that the disease has been partly or entirely brought on by indulgence in mental anxiety, which, to say the least, may not be necessary, and may and frequently should be avoided. It cannot be expected that every individual shall exercise the philosophical calmness requisite to forgetting or ignoring mental agitations; but from the nature of the case, it may be presumable that a knowledge of the really producing cause of the disease will greatly assist in fortifying the sufferer against a protracted continuance of it. In my own experience of its treatment, I have found that when patients are informed that it has been brought on themselves by a mental agitation, that might seem to be avoidable or inexcusable and needless, the disease has been shortened in its course or immediately stopped; and in cases where there have been successive attacks, on the patient being informed of their nature and cause, he has apparently been thus spared these recurring attacks.

The preceding inquiries are no doubt in the true spirit of the medical profession, which ranks the means of preventing disease, or lessening its violence among its most important discoveries. If there is less confidence in specifics; if there is more known of the deleterious effects of some kinds of medication; if the number of diseases found to be uncontrolled by medicine, is an increasing catalogue, it is owing to conscientious and carefully noted observations by the faculty. Vaccination, the forestalling of dyspepsia, the principles and necessity of ventilation, may be proudly signalized as benefits which, however properly appreciated, have never been recompensed by the vulgar, who suppose all motives to end in the expectation of pecuniary reward. This kind of information by the press, and by individual advice to patients, is being more and more diffused, till all these subjects, so intimately connected with happiness, are more understood; and the people, by avoiding many errors already known, are learning that the good, the true, and the beautiful, are one and the same: that perfection of form even is to follow mental and moral perfection, till a new trinity of beauty, love, and worship is to be added to the sublime dogmas of received revelation, in the new Evangel of health.

ART. IV.—*On the Treatment of Prolapsus Uteri by the Local Application of Tannin.* By G. A. KUNKLER, M.D., of Madison, Ind.

EVERY scientific physician will admit that any practical and efficient suggestion in the treatment of such a distressing malady as the above, is a matter of interest to all branches of the profession; for cases such as are referred to are brought under the cognizance of us all, and I am sure that there are few who will not regard as a boon a method well adapted to fulfil that main object which we all have in view in treating a patient,—"a perfect cure." It is to the treatment by the local application of tannin in cases of simple descent of the womb, uncomplicated by disease, that I wish to direct attention.

The practice of treating prolapsus uteri by the local application of tannin, was, if I am not mistaken, first recommended by Dr. B. F. Barker, of New York, and has since been employed by several Eastern physicians with a very favorable result.

In a number of the New York Medical Times of the past year, Dr. Chas. A. Budd has published a paper, with the report of several cases, corroborative of the value of this treatment. The result in my own practice has proved so satisfactory, that in no future case shall I omit to give it a trial. I am convinced that in all cases where there exists an indication, the result will be satisfactory, provided it be persevered in by the patient as well as the physician. Among the cases in which this treatment is not applicable may be mentioned a loss of substance in the perineum, in consequence of laceration or other injuries, a very straight sacrum, &c. &c. The treatment is not so annoying to the patient as may be supposed, as any female attendant, or the patient herself, can change and reintroduce the lint whenever it is necessary.

The following cases may not prove without interest:

Case I. Mrs. C., aged 35, married, and without children, applied to me in June, 1856. She had been suffering with prolapsus uteri for twelve years. The patient is a stout, heavily-built woman, of a lymphatic temperament, and had previously always enjoyed good health. She attributes the disease to an abortion which she had in the sixth month of pregnancy; the placenta did not follow, and was forcibly removed. She has worn quite a number of different kinds of pessaries, but never was able to continue their use for any length of time, on account of the violent irritation, which they invariably caused. Menstruation has been very irregular for the past two years, generally returning every fifteen days, and occasionally to an alarming extent. At the time the patient came under my care, the whole body was bloated with anasarca; the uterus was somewhat enlarged and congested, and low down in the vagina; the cervix slightly protruding at the vulva. The organ could be reduced without much difficulty, but would descend immediately upon the erect posture being assumed.

The general health was at once attended to; bark, steel, wine, &c., and a light nutritious diet were ordered, and the recumbent posture enjoined. After the uterus was replaced, the vagina was ordered to be syringed three times daily with a solution of three drachms of gallic acid to a pint of water. About one week afterwards the tannin was applied. The manner in which I used the latter is the same as that recommended by Prof. Barker and Dr. Budd. A double or treble thickness of the common patent lint is taken, and a triangular portion is cut out of a sufficient size, when firmly rolled up so as to form a cone, to fill the capacity of the vagina; near the apex a string may be attached to facilitate its withdrawal. The patient is placed upon her back, with the hips slightly elevated, and after the uterus has been replaced the lint, soaked in a solution of one ounce of tannin to eight ounces of water, is introduced, after being firmly rolled up, with its apex downwards, and its base in immediate contact with the os tincæ. The solution should be used cold, and applied daily, for a longer or shorter period, in accordance with the extent of the displacement. In the above-mentioned case it was applied almost successively for about forty-two days; no unpleasant symptom was noticed as resulting from it. The patient is now in perfect health, and has, up to the present date, not the slightest symptom of a return of the disease, being able to attend to the most laborious domestic duties. The menses became regular at once, upon the removal of the disease. Constipation was rigidly guarded against by the exhibition of either castor oil or the colocynth and hyoscyamus pill.

Case II. Mrs. H., aged 22 years, the wife of a respectable clergyman, and mother of two children, has been affected with prolapsus uteri since her confinement with her first child about four years ago, and after confinement with her second child, about a year and a half ago, the symptoms returned in a still more aggravated degree. The patient is a feeble, delicate woman, and subject to the most severe and convulsive form of hysteria, somewhat resembling epilepsy. Digestion was depraved, the menses irregular and always attended with much suffering; the bowels were always constipated. The uterus was found very low in the vagina. The general health was corrected, and the gallic acid injections used preparatory to the application of the tannin; the latter was applied as in the preceding case, the recumbent posture being enjoined for nearly one month. At the expiration of this time, the uterus occupied its proper position; the leucorrhœa, with which she had been affected for a long time, had disappeared, and from that time the violent hysteric paroxysms never returned, the patient ever since enjoying perfect health.

Case III. Mrs. W., aged 34, the mother of three children, the youngest being seven years of age. The patient has been subject to prolapsus uteri since the birth of her last child, and attributes it to a rudely managed accouchement. She is of a nervous hysterical temperament, and a feeble, delicate constitution. There was continually a profuse leucorrhœal discharge, the menses were scanty and irregular, and the uterus very low in the vagina. Injections of a weak solution of alum were used for a short time, after which, the lint, soaked in the tannin solution, was applied daily, for about three weeks, when she was dismissed, relieved. This patient had worn several pessaries for a short time, but was always compelled to lay them aside, on account of the irritation which they produced, although they fitted well, and were properly constructed.

ART. V.—*A Case of Encephaloid Tumor within the Cranium and upon the Front of the Neck.* By J. P. KLUGE, M.D., Physician to the Panama Railroad Company.

CATHERINE LEHMAN, æt. 23, native of Switzerland, was admitted into Ward 24 of the Emigrants' Relief Hospital, New York, on the 30th April, 1853.

Status Præsens. She is exceedingly emaciated; pulse ninety-five, small, frequent, and almost threadlike; complexion sallow, or rather of a light straw color; skin dry, harsh, and wrinkled; states she is troubled with profuse and exhausting nightsweats; blepharoptosis and amaurosis affecting left eye; partial paralysis of left inferior extremity. A tumor of the size of a large orange, circumscribed, but immovable, lobulated and firm to the touch, situated over the region of the thyroid gland; at first sight considered to be bronchocele or goitre, as the patient was a native of a section of country where that disease was prevalent and endemic amongst the inhabitants.

Complains of severe cough; sputa, copious, muco-purulent in character, and odor fetid; dyspnœa, probably caused in some degree by the above-mentioned tumor compressing the air-passages; subcrepitant râle, commingled with coarse mucous rattling, is heard over the lower portion of right thorax; in the supra-scapular and subclavicular regions of same side expiratory murmur somewhat prolonged, and inspiration indistinct; dulness upon percussion over whole right side of the chest; violent headache, anorexia, and slight mucous diarrhœa. Owing to patient's partially deranged state of mind and great exhaustion, we did not succeed in eliciting anything very satisfactory concerning the previous history of her case, or the circumstances under which the disease occurred. She, however, states to have been sick since last December, and to have had the tumor referred to for three or four years, while still in her native land: for the last two months, she says, it has grown rapidly, notwithstanding the remedial measures employed by a German practitioner, under whose medical charge she had been for some time before applying for admission into the hospital. The fact of the rapid increase of the tumor, and other circumstances, led my colleague, Dr. Walser, and myself, to suspect its being of a malignant character. She further says, that the severity of all her symptoms has been in a corresponding ratio with the sudden enlargement of the tumor, and particularly the pain in her head, which is frontal, and has been unremitting and of an agonizing, lancinating character for the last two weeks.

Diagnosis. Not satisfactorily determined; supposed the tumor, however, to be scirrhus or encephaloid cancer, and the patient to be laboring under the cancerous cachexia, with depositions of carcinomatous matter in the brain or its meninges, and perhaps in the parenchyma of the lungs and other viscera.

Prognosis. Very unfavorable. *Mors sequetur.*

Treatment. Tonics, alteratives with anodynes, to alleviate present symptoms. Syr. Ferri Iodide and Mistura Quiniæ Sulph. in repeated doses during the day; and an anodyne and astringent draught, containing Morph. Sulph. gr. $\frac{1}{4}$, and Plum. Acetas, gr. iii, to be administered at night. Light but nutritious diet. Death took place on the 7th May, after she had been but one week under treatment at the hospital.

Autopsy. Made in the presence of the visiting physician, and several members of the resident medical staff, thirty-six hours after death, disclosed the following morbid anatomical appearances. *Brain.* Upon opening the cranium the appearance of the superficies of the brain and medulla oblongata was perfectly normal.

Examination of the base of the brain and cranium disclosed a pulpy, principally dark or bister-colored, sanguineous and encysted tumor, occupying the situation of the pituitary gland in the sella turcica, imbedded in the surrounding substance of the brain. This tumor was of the size of a large walnut: its dimensions were not accurately taken. Having carefully dissected it from the bony structure upon which it principally rested, the sella turcica was discovered to be in a state of caries; posterior clinoid processes entirely obliterated, and anterior ones carious, and in process of absorption.

The external tumor was also removed, and found to resemble lobulated cerebral matter, of a dead-white color in parts, and pinkish and opaque in others, where softening had apparently commenced. In general, however, the mass was rather firm in consistence than otherwise, and upon being cut into, was found interspersed here and there with depositions of a dark brown matter or pigment, tuberculated in appearance, though not according with Abernethy's description of *sarcoma tuberculosum*, although small cavities existed in the vicinity of the tuberculated deposits, which appeared to have resulted from softening or ulceration. The cerebral tumor was in such a state of softening that any structural peculiarities it might have possessed at an earlier period were no longer discernible.

The tumor on the front of the neck had no attachments to the thyroid gland, larynx, or trachea. It was imbedded in the cellular and muscular tissues alone. *Lungs.*—Greatly congested, with œdema of inferior lobes, which pitted upon pressure, and, when incised, exuded a sero-purulent fluid, intermingled with streaks of blood. Superior lobe of right lung in a state of active congestion, with compression and partial obliteration of some of the smaller bronchial tubes. No trace of organic disease could be detected (contrary to expectation) in either the lungs or posterior and anterior mediastinum. Heart normal. Uterus and its appendages healthy, and within the uterus an embryo of probably six weeks or two months was discovered. No morbid appearances discovered in the liver or stomach, with exception of an anemic condition of both. Intestines and remaining viscera not examined, at least I find no mention made in my note-book concerning them.

ART. VI.—*Puerperal Fever of an Erysipelatous Character treated with Iron and large Doses of Opium.* By R. V. DUNCAN, York County, Pa.

THE following details of a case of childbed fever of a malignant character, will, I hope, prove interesting to the profession, and contribute to the discovery or adoption of some more successful mode of treating this most fatal form of disease. The fatality which has followed the course of treatment generally pursued by medical men, should lead the inquiring practitioner to look for some more successful mode of combating this fatal malady,—some remedy or remedies that would not exhaust the already debilitated lying-in patient; for the idea of debility is associated with every case of labor, as daily observation will prove to every practitioner. And is it good policy on the part of medical men, when their childbed patients fall victims to a rapidly fatal and destructive malady, to drain from the system a large quantity of blood, thus depriving it of that vital fluid which it so much needs to sustain it through the ravages of the disease? The details of the case I am now about to cite will show conclusively that this form of disease can be successfully treated by other means than those of a rigid antiphlogistic character.

On the morning of the 9th of April last, I was called to attend Mrs. K., in confinement with her third child. Her labor was easy, and soon over; the child being born before I arrived at the house. I soon proceeded to remove the secundines very carefully, which passed away in due time. After giving the infant the necessary attention, I took my leave of the patient, who expressed herself as feeling very comfortable indeed.

I visited her the next day, and found her doing very well. On the second and third days I called to see her, and found her very comfortable, and improving rapidly in strength. I discharged myself on the third day, remarking to her at the same time, that she was more comfortable than the most of patients are at that period after confinement.

On the morning of the fifth day, I was summoned in haste to see Mrs. K. Upon arriving at the house, I found her laboring under all the symptoms of puerperal fever. Acute pain; great tenderness, and enormous tympanitic distension of the peritoneal region; pulse one hundred and ten; confusion of ideas; great thirst, and a large erysipelatous blush on the right cheek. After deliberating for some time, I concluded to pursue a different course of treatment from what is generally recommended in those cases, and treat the symptoms as they presented themselves. My patient was suffering much pain; I gave her large doses of morphia at short intervals to overcome that symptom. As soon as the pain was somewhat mitigated, I gave her a dose of calomel, and followed it up with castor-oil and turpentine, which operated in the course of a few hours. I observed, however, that the purgative did not act until I brought the patient fully under the use of the opiate. This fact is worthy of consideration, for it is reasonable to suppose that the high grade of inflammatory excitement existing in the uterine and peritoneal regions, accompanied with violent pain, would necessarily interfere with the peristaltic motion in the bowels, and hence the great difficulty in those cases in being able to evacuate the intestinal canal. As soon as a motion was procured from the bowels, I put the patient on the tincture of the muriate of iron, twenty drops every two hours, and continued the opiate as long as she complained of pain and tenderness. Large, hot poultices were kept constantly applied to the abdominal and pelvic regions. I also made use of a solution of the sulphate of iron to the erysipelatous blush on the cheek, of the strength of an ounce of the salt to a pint of water. My reasons for using the iron were, that I have found, from past experience in several cases, that the preparations of this metal possess a remarkable influence over disease of an erysipelatous character. Under this treatment she commenced to improve on the second day, and continued to improve daily till the fifth day, when the puerperal symptoms subsided, and she was again comfortable, to my great satisfaction, and to the joy and comfort of the family, who had given up all hope of her ever being restored.

On the third day of her illness, my attention was called by the nurse to the infant. She informed me that it had moaned all night, and appeared to be in much pain. Upon removing the dressing from the funis, I found that the same form of disease had set in there. There was the same erysipelatous blush that appeared on the cheek of the mother. I at once gave the little sufferer up, concluding from the reports which I had read of cases of this character that it was hopeless. However, I determined to do something to relieve its pangs. I commenced the use of a weak solution of the sulphate of iron, as an external application to the inflamed and swollen funis, and with a very happy effect. In twenty-four hours after, I observed a favorable change; and, in the course of two days, it was so much improved that I considered it out of danger. By the fifth day it was entirely well. Both mother and child are still living, and in blooming health. Whatever virtue there may be in the course of treatment pursued in this case, I will leave the facts and result to future demonstration.

ART. VII.—*A Case of Dislocation of the Femur into the Sacro-Ischiatic Notch. Reduced by Manipulation.* By G. R. HENRY, M.D., of Burlington, Iowa.

On the 24th inst., I was requested by Dr. W. W. Nassau to visit with him a man who had been thrown from a rail car on our Western road.

I found a very robust, muscular man, about 40 years old, with his right leg very much everted and shortened two inches and a half, presenting the indications of a fracture of the neck. From the absence of crepitus, and the obstinate persistence of shortening, we concluded that there was no fracture; and from our inability to feel the head of the bone and the position of the trochanter, we diagnosed a dislocation into the sacro-ischiatic notch.

We determined to attempt the reduction without applying the pulleys. After administering chloroform, we flexed the knee upon the thigh, and gradually elevated the latter upon the body, then bent it downwards and towards the other side, keeping up manipulations upon the trochanter. During its descent, the head of the bone was felt, and heard to move from the notch and take its position upon the dorsum ilii. After repeating this proceeding two or three times, it slipped into the acetabulum. We were much aided and assisted by Drs. Peet and McCann.

The ease with which the reduction was accomplished, the slight laceration of the muscles, the comfortable condition of the patient afterwards, in connection with the rapid recovery from all ill effects of the injury, satisfy me that, *where it is practicable,* this mode of procedure is far preferable to the one in common practice.

ART. VIII.—*Mortality of Philadelphia, for April, May, and June,* 1857, *collated from the Health Office Record.* By WILSON JEWELL, M.D.

THE deaths for the second quarter of the year, from March 28th to June 27th, embracing a period of 92 days, have amounted to 2398. This statement shows a comparatively healthy state of our city for the past three months. The number of deaths having been 11 per cent. less than the previous quarter, and 3 per cent. less than the second quarter of 1856.

The deaths recorded from disease, number 1971, while those charged to adventitious causes, among which we have placed stillborn and unknown, amount to 427. By this classification, we show a mortality of not more than 21½ per day, from disease, or, for the quarter, as one in every 279 of the population, estimating this at 550,000.

The deaths among males have been 1298, and among females 1100, presenting an unusual excess in the male sex of 8·21 per cent.

The mortality in children, or those under twenty years, has amounted to 1329; exceeding those over 20 by 260, or 10 per cent. The deaths among boys were 716, and among girls 613; being an excess of more than 7 per cent. of the former.

The male stillborn children exceeded those of the female sex by 20 per cent., an unusually large percentage, but whether accidentally, or the result of natural causes, remains to be shown hereafter.

Among children under five years of age, there are recorded 941 deaths, not including the stillborn, which have been 125. This mortality is less than usual, amounting only to 41 per cent. Those under one year, were 19 per cent.

The month of June has been remarkably healthy; according to the record, only 635 deaths have been registered. The last week in this month gave only 131 deaths. This was the lowest during the quarter. The highest number for any one week, was in that from the 11th to the 18th of April, when they reached 226.

The deaths from "zymotic" diseases, have fallen off nearly one half those of the previous quarter. This is owing, in a great degree, to the reduced number of deaths from scarlet fever, equal to 272 for the quarter. Besides this, in consequence of the absence of the usual temperature of June, there are only 10 deaths from cholera infantum. Last year, in the same quarter, there were 32 deaths recorded. A great disproportion may also be noticed between the deaths from small-pox last year, in the second quarter, and those in the present, equal to 58 per cent.

Scarlet fever is still lingering in our city, although the cases as well as deaths have materially diminished since our published report for the first quarter of the year.

The "Sporadic, or Uncertain" class of diseases, make up 338 of the deaths,—the same number as recorded in the parallel quarter of last year. Nearly one half of the deaths registered under this head, are from debility and marasmus. Dropsy (what description?) furnishes 57, and nearly one-half of these were among children.

Of the class "Nervous" diseases, there were 397 deaths, and of this number, 264, or 20·12 per cent., were under twenty years of age. Convulsions, principally in infants, or those under two years, contributes 121 of the total. Inflammation of the brain gives 62, and congestion of the brain 44. All of these were among children.

The diseases of the "Organs of Respiration" furnish a larger proportion of deaths than any other class, amounting to 661. Of these, consumption of the lungs contributes 359, equal to 52·64 per cent., and 15·78 per cent. of the whole number of deaths (excepting stillborn). The deaths under this class, from inflammation of the respiratory organs, amounted to 220, or an increase of 14 per cent. above those for the same quarter of last year. The deaths from consumption of the lungs, however, were less than for the same period in 1856.

Under the name "Disease of the Heart" (what kind?), we find 47 deaths recorded. Inflammation of the stomach and bowels, 65 deaths. Puerperal fever, 12 deaths. This last is an improvement over those for the last quarter; nearly one-third less.

The deaths from "External Causes" amount to 104. Of these, 44, or 40·54 per cent., were under the head, drowned, and 19 were ascribed to casualties.

TABLE No. 1.

Deaths for the Second Quarter of the Year 1857, *classified.*

	April.	May	Jun	Male.			Female			Total.
				A.	M.	J.	A.	M.	J.	
1. *Endemic and Contagious Diseases.* Zymotic or Epidemic,	193	113	99	89	62	41	104	51	58	405
2. *Uncertain or General Seat.* Sporadic Diseases,	130	108	100	72	60	44	58	48	56	338
3. Nervous System,	182	103	112	120	63	61	62	40	51	397
4. Organs of Respiration,	329	200	132	177	105	62	152	95	70	661
5. " Circulation,	27	17	24	19	11	11	8	6	13	68
6. " Digestion,	61	33	40	30	13	24	31	20	16	134
7. Urinary Organs,	7	3	3	3	3	1	4		2	13
8. Organs of Generation,	4	4	9				4	4	9	17
9. " Locomotion,	4	2	6	2	1	3	2	1	3	12
10. Integumentary System,	1	3	2	1	2	1		1	1	6
11. Old Age,	12	18	10	4	6	6	8	12	4	40
12. External Causes,	31	31	42	28	23	31	3	8	11	104
Still Born,	49	36	40	32	23	20	17	13	20	125
Unknown,	40	22	16	25	8	11	15	14	5	78
	1070	693	635	602	380	316	468	313	319	2398

TABLE No. 2.

1. *Endemic and Contagious Diseases—Zymotic or Epidemic.*

	Males.	Females.	Boys.	Girls.	Under 1 yr.	1 to 2.	2 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	80 to 90.	91 o 100.	100 to 110.	Total.
Cholera,	2											1		1						2
" Infantum,	3	7	3	7	8	2														10
" Morbus,		1														1				1
Croup,	31	34	31	31	11	9	34	8					3							65
Diarrhœa,	12	6	6	3	3	5	1				2	2	1	1	1	1	1			18
Dysentery,	10	8	4	5	3	5	1				1	3		2	1	1	1			18
Erysipelas,	12	16	5	10	8	1		1	2	3	1	3	2	3	1	2	1			28
Fever, Bilious,	3		1				1				1	1								3
" Congestive,	1		1							1										1
" Gastric,		1		1	1															1
" Enteritic,	2												1		1					2
" Inflammatory,		1		1	1															1
" Intermittent,		2		1			1									1				2
" Nervous,		1														1				1
" Remittent,	1	4	1	2	2			1			2									5
" Scarlet,	72	81	72	80	11	31	66	36	7	1			1							153
" Typhoid,	17	19	6	12	2	1	4	6	2	3	3	5	3	3	2	2				36
" Typhus,	2	3		1			1				1	1			1	1				5
Hooping-Cough,	2	8	2	8	6	1	2	1												10
Measles,	6	5	6	5	2	3	3	2	1											11
Influenza,	1	1	1					1									1			2
Small-pox,	12	14	11	11	6	9	5	1		1	2	2								26
Syphilis,		1		1	1															1
Varioloid,	3		3		1		1	1												3
	192	213	153	179	66	67	120	58	12		13	18	11	10	7	10	4			405

2. *Uncertain or General Seat—Sporadic Diseases.*

	Male.	Female.	Boys.	Girls.	Under 1 yr.	1 to 2.	2 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	80 to 90.	90 to 100.	100 to 110.	Total.
Abscess, ...	9	4	3	1	3					1	2	2	3	1		1				13
Congestion, ...	1	1	1	1	1	1														2
Cachexia, ...	1														1					1
Cancer, ...	6	16		2		1			1		1	4	4	4	3	4				22
Cyanosis, ...	1	6	1	6	7															7
Debility, ...	46	29	20	19	34	3	1	1			1	3	2	9	11	6	4			75
Disease of Throat, . .	1		1		1															1
Dropsy, ...	28	29	13	10	2	2	7	10	1	1	9	3	5	4	6	4	3			57
Gangrene, ...	4	2	2		1					1				1	1	1		1		6
Gout, ...		2											1				1			2
Hemorrhage, ...	2	2		1	1						1	2								4
Inanition, ...	13	6	12	5	14		2		1					1		1				19
Inflammation, ...	1	2	1	2		1		1	1											3
" Throat, .	1	1	1	1		2														2
Malformation, ...	2	3	2	3	5															5
Mortification, ...	3	3	2			·		2							1	2	1			6
Marasmus, ...	47	39	42	35	49	13	12	3			1		2	2	1	2		1		86
Rickets, ...	1		1			1														1
Scrofula, ...	6	4	5	3	2	3	1			2	1	1								10
Sore Throat, ...	2	5	2	5	1	4		2												7
Tabes Mesenterica, . .		4		4		1	3													4
Tumor, ...	1	2	1					1				1	1							3
" on Neck, . .		1		1	1															1
Ulceration, ...		1										1								1
	176	162	110	99	122	32	26	20	4	5	16	17	18	22	24	21	9	2		338

3. *Nervous Diseases.*

	Male.	Female.	Boys.	Girls.	Under 1 yr.	1 to 2.	2 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	80 to 90.	90 to 100.	100 to 110.	Total.
Cramp, ...		1		1			1													1
Apoplexy, ...	20	13	5	2	4		2	1			1	2	2	8	4	6	3			33
Chorea, ...		1									1									1
Concussion of Brain, .	3											1	1			1				3
Congestion of Brain, .	31	13	21	9	15	4	8	3			1	3	3	3	2	1	1			44
Convulsions, ...	65	56	62	51	68	14	15	11	1	4	4	2		2						121
Disease of Brain, . .	12	3	8	2	3	5	1			1		1	1	1	2					15
" Ear, . . .	1		1			1														1
Dropsy of Brain, . . .	25	15	23	14	10	16	9	2				2					1			40
Effusion on Brain, . .	9	4	6	4	4	3	2	1				1		1	1					13
Epilepsy, ...	2		1				1						1							2
Inflammation of Brain,	34	28	25	23	13	8	14	8	3	2	4	5	2	3						62
Mania, ...	2	2									2	1				1				4
Mania-a-Potu, . . .	15	4									2	9	6	1		1				19
Palsy, ...	17	9									2	1	5	4	7	6	1			26
Softening of Brain, . .	5	2	3	1	1	1	1		1				1	1	1					7
Tetanus, ...	3	2	2			1			1		2	1								5
	244	153	157	107	118	53	54	26	6	7	19	29	22	24	17	16	6			397

4. *Organs of Respiration.*

	Male.	Female.	Boys.	Girls.	Under 1 yr.	1 to 2.	2 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	80 to 90.	90 to 100.	100 to 110.	Total.
Asthma, ...	1	3		1					1			1	1			1				4
Congestion of Lungs, .	16	13	10	9	9	2	7		1		3	2	3	1	1					29
Consumption of Lungs,	179	180	25	32	9	7	12	1	3	25	108	86	48	37	12	8	3			359
Coryza, ...		1		1	1															1
Disease of Chest, . .	1	1	1	1		1	1													2
" Lungs, . .	10	4	5	1		4	1			1	1	2	3		1	1				14
Dropsy of Chest, . .	12	7	7	3	4	3	3							3	3	1	2			19
Effusion on Chest, . .	2		1		1								1							2
Empyema, ...	1		1				1													1
Emphysema, ...	1		1		1															1
Gangrene of Lungs, .		1												1						1
Hectic Fever, ...		1									1									1
Hemr'ge from Lungs, .	6	1	1		1							1	1	1	1	1	1			7
Inflam'n of Bronchi, .	28	25	20	19	17	8	6	7		1	2	3	2	3	1	2	1			53
" Lungs, .	70	65	45	38	34	15	20	5	3	6	11	5	6	9	9	9	3			135
" Larynx, .	2	1	2	1	2		1													3
" Chest, . .	3	2	3	1	2	1	1								1					5
" Pleura, .	8	9	1	2	1			1		1	2	3	2	4	1	2				17
" Trachea, .	4	1	4	1		2	2	1												5
" Tonsils, .		2		2	1			1												2
	344	317	127	112	83	43	55	16	8	34	128	103	67	59	30	25	10			661

5. *Organs of Circulation.*

	Males.	Females.	Boys.	Girls.	Und'r 1 yr.	1 to 2.	2 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	80 to 90.	90 to 100.	100 to 110.	Total.
Aneurism, ...	2		1		1											1				2
Disease of Heart, . . .	27	20	11	4	3	1	3	2	4	2	6	4	6	1	12	3				47
Dropsy of Heart, . . .	4	3	2	1	1			1	1		1		1			2				7
Enlargement of Heart, .	4	4	1						1		1	1	1	2	1	1				8
Inflammation of " .	3		2				2						1							3
Rupture of Bloodvessel,	1											1								1
	41	27	17	5	5	1	5	3	6	2	8	6	9	3	13	7				68

6. *Digestive Organs.*

	Male.	Female.	Boys.	Girls.	Under 1 yr.	1 to 2.	2 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	80 to 90.	90 to 100.	100 to 110.	Total.
Cancrum Oris, ...		1		1			1													1
Cirrhosis, ...	1														1					1
Congestion of Bowels, .	1	1										2								2
Colic, ...		2		1	1									1						2
Disease of Liver, . . .	5	1	3		2		1				1	1			1					6
" Stom. & Bow.,	2	4	1	2	1		1	1				1				2				6
Dropsy Abdominal, . .	2													1	1					2
Dyspepsia, ...		1											1							1
Hernia, Strangulated, .	1	2										1	1	1						3
Jaundice, ...	3	2	3	1	4										1					5
Inflamm'n of Abdomen, .		1		1		1														1
" Liver, . . .	6	5	2	3	1			2	1	1	1		3	2						11
" Peritoneum, .	5	14		6	1	1		2		2	5	3	1	2	1	1				19
" Stom. and Bow.,	35	30	18	11	11	3	7	3	1	4	3	12	5	3	8	3	2			65
Intussusception, . . .	1														1					1
Obstruction of Bowels, .	1		1		1															1
Scirrhus of Stomach, .	1												1							1
Sore Mouth, ...		1		1		1														1
Teething, ...	2	1	2	1		3														3
Ulceration of Stomach, .	1													1						1
Worms, ...		1		1		1														1
	67	67	30	29	22	10	10	8	2	7	10	20	12	11	14	6	2			134

7. *Urinary Organs.*

	Male.	Female.	Boys.	Girls.	Under 1 yr.	1 to 2.	2 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	80 to 90.	90 to 100.	100 to 110.	Total.
Albuminuria, ...	4											2	1	1						4
Diabetes, ...		2										1	1							2
Disease of Kidneys, . .	1	1		1					1			1								2
Inflamm'n of Bladder, .		1														1				1
" Kidneys, . .	2	1	1					1			1		1							3
Suppression of Urine, .		1		1			1													1
	7	6	1	2			1	1	1		1	4	3	1		1				13

8. *Organs of Generation.*

	Male.	Female.	Boys.	Girls.	Under 1 yr.	1 to 2.	2 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	80 to 90.	90 to 100.	100 to 110.	Total.
Fever, Puerperal, : . .		12		2						2	3	6	1							12
Hem'age from Uterus, .		2		1			1				1									2
Inflamm'n of Uterus, . .		2									1	1								2
Ovarian Tumor, . . .		1											1							1
		17		3			1			2	5	7	2							17

9. *Organs of Locomotion.*

	Male.	Female.	Boys.	Girls.	Under 1 yr.	1 to 2.	2 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	80 to 90.	90 to 100.	100 to 110.	Total.
Caries, ...	1		1				1													1
Caries of Vertebræ, . .		1										1								1
Disease of Hip, . . .		1									1									1
" Spine, . . .	1												1							1
Inflamm'n of Hip, . . .		1		1					1											1
" Spine, . .	2		1		1								1							2
Effusion Spinal Marrow,		1													1					1
Rheumatism, ...	2	2	2		1		1				1				1					4
	6	6	4	1	2		2		1		2	1	2		2					12

10. *Integumentary System.*

	Male.	Female.	Boys.	Girls.	Under 1 yr.	1 to 2.	2 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	80 to 90.	90 to 100.	100 to 110.	Total.
Eczema, ...		1		1	1															1
Purpura, ...	1		1					1												1
Scurvy, ...	3	1										1	2		1					4
	4	2	1	1	1			1				1	2		1					6

11. *Old Age.*

	Male.	Female.	Boys.	Girls.	Under 1 yr.	1 to 2.	2 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	80 to 90.	90 to 100.	100 to 110.	Total.
Old Age, ...	16	24													2	7	23	6	2	40

12. *External Causes.*

	Male.	Female.	Boys.	Girls.	Under 1 yr.	1 to 2.	2 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	80 to 90.	90 to 100.	100 to 110.	Total.
Asphyxia, ...	2	1	2	1	3															3
Burns, ...	8	1	5	1		2	3		1		2	1								9
Casualties, ...	16	3	2	1			1	2			6	3	4	2	1					19
Drowned, ...	40	4	18	2	2		2	8	4	4	6	6	5	5	2					44
Exhaustion, ...	2															1	1			2
Infanticide, ...	1		1		1															1
Intemperance, ...	3	4									1	3	1	1	1					7
Poisoning, ...		2									1	1								2
Strangulation, ...	1												1							1
Suffocation, ...		4		4	3			1												4
Suicide, ...	6	3									1	5	1	2						9
Violence, ...	3										2		1							3
	82	22	28	9	9	2	6	11	5	4	19	19	13	10	4	1	1			104

	Male.	Female.	Boys.	Girls.	Under 1 yr.	1 to 2.	2 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	80 to 90.	90 to 100.	100 to 110.	Total.
Stillborn, ...	75	50	75	50	125															125
Unknown, ...	44	34	14	15	21	1	3	3		1	4	5	20	9	7	3	1			78

TABLE No. 3.

Deaths for the Second Quarter of 1857, *at fifteen distinct periods of life.*

Under 1 year, ...	449	60 to 70, ...	121
1 to 2, ...	209	70 to 80, ...	97
2 to 5, ...	283	80 to 90, ...	56
5 to 10, ...	147	90 to 100, ...	8
10 to 15, ...	45	100 to 110, ...	2
15 to 20, ...	71		
20 to 30, ...	225		2,273
30 to 40, ...	230	Stillborn, ...	125
40 to 50, ...	181		
50 to 60, ...	149	Total, ...	2,398

Of the above deaths, 170 were from the Blockley Almshouse; 147 from the colored population; and 19 from the country, as follows:

	April.	May.	June.	Total.
Almshouse, ...	72	53	45	170
Blacks, ...	56	43	48	147
Country, ...	7	4	8	19
	135	100	101	336

TABLE No. 4.

The following table furnishes the number of deaths for each week during the quarter, together with the sexes, adults and children.

	Male.	Female.	Boys.	Girls.	Adults.	Children.	Total.	Monthly Totals.
1857. From Mar. 28th to Ap. 4th,	114	99	65	59	89	124	213	
" Ap. 4th to 11th, . .	122	100	80	59	83	139	222	
" Ap. 11th to 18th, . .	135	91	74	49	103	123	226	
" Ap. 18th to 25th, . .	123	93	66	61	89	127	216	
" Ap. 25th to May 2d, .	109	84	53	48	92	101	193	1070
" May 2d to May 9th, .	105	79	62	41	81	103	184	
" May 9th to 16th, . .	84	88	51	45	76	96	172	
" May 16th to 23d, . .	105	78	57	38	88	95	183	
" May 23d to 30th, . .	85	69	46	41	67	87	154	693
" May 30th to June 6th,	92	82	56	46	72	102	174	
" June 6th to 13th, . .	69	84	34	47	72	81	153	
" June 13th to 20th, .	86	91	38	48	91	86	177	
" June 20th to 27th, .	69	62	34	31	66	65	131	635
	1298	1100	716	613	1069	1329	2398	2398

Editors' Table.

FEMALE MEDICAL COLLEGES AND FEMALE DOCTORS.—Truly was it said by J. R. Tyson, LL.D.,* in reference to the foundation of Female Medical Colleges: "No country but ours could have given them existence. The prejudices of society would not permit them to flourish elsewhere." The remark of the speaker, like the utterance of the Delphic oracle, admits of a double construction: a compliment or a satire. Our own view may be inferred from the manner in which we propose to treat the subject. No country but Dahomey, a kingdom in Western Africa, could have given existence to regiments of female soldiers,—sable amazons, who constitute the body-guards of the king, and are his most trusted troops. The prejudices of society do not yet allow of such a military organization flourishing in either Europe or America; but with the advances made in favor of woman's rights, there is no saying that we may not live to hear of a corps of American mounted amazons scouring the great plains in pursuit of the Camanches and other Indians. In such an event, there will of course be female military surgeons, who have been educated in Female Medical Colleges by Female Professors; and thus feminality will have shown itself triumphant both in arts and arms. What remains but to give women seats in the Senate and in the Representatives Hall; and as any limitation or restriction must grate on their feelings of independence, when once they have begun to run a rival career with men, they cannot be refused a seat on the Bench, or the privilege of expounding and dispensing, as they had before that of making the laws of the land. Shakspeare represents Portia, in the "Merchant of Venice," disguised in man's attire, and pleading as a doctor of laws for Antonio. Our female lawyers and judges need not don man's attire; their sexuality will be disguised enough under the changed features, voice, and manners of their new callings. Mr. Tyson's good nature made him orator, for the nonce, of the Pennsylvania Female College; but his better taste would not permit him to become its direct advocate. On the contrary, he intimates very clearly his opinions of the relative share of the employments of the two sexes, and deprecates the idea of women going out into the world, to struggle with men in the arena of politics or the marts of trade. "Man has the qualities which enable him to breast the storm, while woman's genius enables her to embellish the retreats which form its sheltered coverts." Elsewhere he had said, "From her nature and organization she proves herself to be

> ——— "'Born to dignify *retreat*,
> *Unseen* to flourish and *unknown* be great.'"

He instances, in a letter preceding the address, "departments for which women are well, nay, *peculiarly* qualified." "For example, several of the fine arts, especially *engraving, the arts of design, watchmaking,* and a variety of kindred employments, are all essentially *feminine*."* Nothing is said in advocacy or explanation of females practising medicine; but much is said about their station and duties, as recorded both in sacred and profane history.

---

* Address at the First Annual Commencement of the Pennsylvania Female College at Harrisburg, 1854.

* The italics are all by the author of the address.

Doctor Fussell, Professor of Obstetrics and Diseases of Women and Children in the Female Medical College of Pennsylvania, delivered a valedictory address to the graduating class, Feb. 28th, 1857. From it we select the following passage: "The admission of women into the profession of medicine is not yet fully acquiesced in." The lecturer himself, while enumerating "the qualities necessary to form the character of the good doctor," leaves a strong doubt on the minds of his readers, of the ability of females to come up to one of the requirements which he lays down. It is the possession of "strong, vigorous health. The labors, hardships, and exposures to which the doctor is subject, require the power of great endurance." "The doctor's duties lead him through torrid heat and furiously driving snows: darkness around, and the crashing of the thunderbolt overhead, must not deter him. The bitter blasts and the pelting rain must be encountered." At this particular point in his address, Dr. Fussell ought to have proved to his auditors that woman, with her peculiarities of organization—her uterine system, with its important and delicate functions, its frequent derangements and serious diseases, and the number and complication of sympathetic disorders in other organs consequent on irritation in it—can encounter the exposures to atmospherical extremes, and the toil and hardships incident to professional life, under which so many of the other sex break down. How will she be able to visit her patients and attend to night-calls, as well as those by day, when she is suffering from disordered menstruation, dysmenorrhœa, for example, or from the incidental but frequent ailments attending gestation, or is unavoidably confined to her room during parturition, and every now and then detained at home by an inflamed mamma, or other, though less painful, incidents of lactation? Woman is liable to a train of organic and functional diseases peculiar to her sex, in addition to the long list common to her and to man. She encounters of necessity, many impediments and interruptions in the discharge of professional duties to which man is not subjected; and to this extent she is less fitted than he is for a medical life. Considering the nature of their avocations, when once enlisted in this way, and the trials of constitution to which they will be subjected, we are fully of opinion that women could better imitate the sable amazons of Dahomey, by forming themselves into regiments of mounted dragoons, than engage in the practice of medicine.

So far, reference has only been made to the strain on woman's physical powers: that on her mental ones is still greater and more trying. With her greater sensibility than man's, her brain must be in a state of continual excitement from the scenes which she will be compelled to witness; and the effects on a mobile organization and nervous temperament, in consequence, can hardly fail to be of a sinister nature, and to prevent her from displaying that cheerfulness which is one of her attributes, and which is laid down by Dr. Fussell as a requirement "necessary to form the character of a good doctor." There can be no dispute as to the necessity of another one designated by him, viz., common sense. Of the possession of this quality by the sex, we find hourly proof in her legitimate domestic and social relations. Some cynics may be heard to say, that the very fact of a woman's intending to practise medicine is a proof that she and common sense are no longer in partnership. It will be alleged, also, by those who hold this opinion, that, in one respect, a woman determined to become a practising physician must have undergone such a seasoning, an induration, as it were, of her feminine sensibilities, as to protect her from suffering any great shock to her feelings. After this process, she might be compared to the "Mock Doctor" in the English play, *Le Medecin Malgré Lui* in the French, who, at first, a simple woodman, binding up faggots, is lighted on, by the mistake of a party sent in quest of a physician, living in retirement in the forest. Our woodman at first protests that he is ignorant of medicine; but he is forced, by dint of a good cudgelling, to admit that he is a doctor, and is ready to obey their bidding. The medical induction is hardly more severe in the one case than in the other; but with this difference, that it is self-imposed by the female doctor; and that in place of throwing off a homely peasant's garb, she parts with the veil of modesty, and unrobes herself of the delicacy which is at once her charm and protection, and a talisman of power.

In one of the scenes of Molière's *Femmes Savantes,* in which some of the ladies had just been indulging in a strain of florid and exaggerated sentiment and euphemisms, a poetaster is introduced, with the recommendation of his knowing Greek. On hearing this, the pseudo-learned ladies exclaim, "Greek! good gracious, Greek! how delightful to know Greek!" "Let me embrace you, sir," exclaims one of them, "for the love of Greek," and her example is followed by two of her friends. A fourth, who looks on things through the medium of common sense, begs to be excused from joining in the *accolades,* as she does not understand Greek. Some of the American women of the present day seem to hold medicine in the same admiration that the French women did Greek in the time of Louis XIV; and as these latter proposed to have a learned academy of their own, so the former claim the right to have a Female Medical College. For ourselves, we are not disposed to recommend either Greek or Medicine as branches of female education; but if required to choose for the sex, we should incline to the Greek, under a belief that they would find the study of the Greek particles less dry than that of the epiphyses of the bones, and a disquisition on the digamma, preferable to digitating, if not handling the intestines, and arguing on the pathology of fluor albus and chlorosis, or descanting on the several stages of parturition. The sex has a bright example before it of distinction in Greek literature, in the person of the celebrated Madame Dacier, the translator of Homer, and a most acute and critical defender of the great poet. We are not aware of any eminence yet attained by our Doctresses of Medicine, nor do we see how a medical lady could combine so well as the "Grecian" did her domestic duties with her literary pursuits. Madame Dacier showed alike her modesty and her learning, when she wrote in the album of a German traveller, as an apology for her unwillingness to place herself among his learned friends, a sentence from Sophocles: "Silence is the female's ornament." Shall we ever see this adopted as a motto on the standard of the Women's Rights party? If it should happen that our Doctress becomes a mother,—a very probable event,—would she imitate the wife of the learned Budæus, who gave birth to eleven children, and who, without neglecting their education, aided her husband in comparing passages and transcribing quotations; was ever at his side, and ever assiduous, when not engaged in her domestic duties.

We shall be told that a female practitioner of medicine could not find time to aid her husband in this way, even if he were a literary one,—occupied as she would be with her professional engagements away from home. There are, however, some obligations which she must fulfil, such as those connected with her maternity, and which would seriously interrupt her intercourse with her patients. In the latter period of gestation, when she is seen entering the sick room with an unmistakable abdominal development, very different and less pleasing ideas are suggested to the mind of the patient and his friends, than those that would arise at the sight of a doctor of the Falstaff genus, whose "belly is with good fat capon lined." The first tells of approaching cessation of medical attendance, with consequent discouragement to both parties, and the latter brings with it smiles and pleasant company. Time rolls on, and on a certain morning the doctress mother sends word to her circle of patients that she must be excused from visiting them for the next month, owing to an increase of her family, which took place during the night. With inquiries after her health she receives, as we learn through "a medium," the two following among other missives of the same nature. The first is from a lady, and runs as follows: "MY DEAR DOCTRESS: How could you serve me so? You deceitful thing! I was full of hopes, from what you told me, knowing as you are in such matters, that you would let me get the start of you, so that I might have the benefit of your invaluable services in my hour of trial. I counted, also, on hearing you repeat, during my pains, some of those sweet verses which our strong-minded sister, the poetess, composed to inspire us with true womanly courage on the occasion. If those other ones, by Clio, were set to music, and played on the piano, they would, I am sure, be more soothing to us, and safer than either chloroform or ether, or that other newly-discovered thing, the name of which sounds like Emmeline. What makes it more unfortunate for me, I am afraid that my unenlightened,—I was going to say barbarian,—husband will not give his consent to my being attended, during my confinement, by your interesting protegee, Marcia. To say the truth, this young person fails to give us desired confidence: you must have noticed that she still retains some of the old-fashioned modesty, which used to be quite common before the late happy reform; and that when certain professional matters are talked over, she actually blushes, as if she had never been present at a Woman's Rights Convention, or followed a course of lectures in a Female Medical College. The upshot, I fear, will be that I shall have to call in one of those odious men-midwives,—the very word itself shows what interlopers they are, —who will offer his stale consolations, and perhaps retail an old nursery joke. To do the creature justice, however, I must acknowledge, that in one of my confinements he saved my life by his prompt and decided course, when all around were panic-struck; some of them ready to faint and some to shriek. I hope the dear little love is doing well; and that your husband will feel that it is his duty to take care of it when you are visiting your patients. Believe me to be your ever grateful and attached SELINA."

The second missive is from a hypochondriac gentleman: it is, of course, shorter and more carefully worded than Selina's familiar epistle: "DEAR MADAM: In the interesting situation in which you now find yourself, I must not hope to receive the benefit of your professional visits for some time to come. I hope your nerves do not give you so much trouble as mine do. I suffer more than usual from palpitations this morning. I was not able to eat more than half a rockfish, nor to drink more than a pint of milk for breakfast. What can I take to give me an appetite? If you have no other preference yourself, I would be quite content to be visited by the young doctress (no intimation this, I assure you, that anybody thinks you are old), whom you once brought with you, that she might hear me tell some of my peculiar symptoms, which, you said, were not described in the books. It seems to me that I could enlarge the list of my nervous feelings, and especially palpitations and flushings, with a shade of vertigo, while this young lady is feeling my pulse, and looking into my eyes to ascertain whether they have lost their jaundiced hue. I am almost sure that the musical tones in which she would give her directions for my conduct will go far to raise me from despondency for the rest of the day. With earnest wishes for your early convalescence, I beg leave to subscribe myself, dear madam, your trusting patient, SOLOMON DOUBTFUL."

Gestation over, lactation begins, and the engrossing claims of the infant, very audibly made known, cannot be disregarded. Here is another cause, if not of absolute detention in her house, at least of frequent interruptions to the professional round of the doctress, who must hurry home to suckle the baby, or if she is detained with a case of midwifery, the little body will have to be sent for and get its food in the room of the patient. A question now comes up which we are unable to solve, viz.: whether the lullaby and rocking, for the purpose of soothing the infantile visitor, will have an equally composing effect on the lady who is in labor. There will be some difference of opinion on this point. The crisis reached, and the birth having taken place, it is more than probable that the cries of the new-comer will rouse to a response, on the same key of C sharp, the baby of the doctress; and then will be heard a duet, the notes of which were never scored by Rossini or Verdi, but which may, for a while, make the young mother believe that she has given birth to twins.

Much, under the new order of things, must be expected from compliant husbands; for as there is a circle of family and domestic duties to be discharged, it is quite obvious, that if the wife assumes the work of the man, out of doors, he must, as far as lies in his power, supply her place in the nursery, the kitchen, and the laundry, and display management and administrative talents, never before dreamed of in his philosophy. That he will often be at fault on these occasions need not excite surprise, when a lady herself, who has the direction of affairs, and devotes herself steadily to her household duties, meets with frequent annoyances and embarrassment from the display of the reserved rights of her 'helps.' Hence the lady doctress, if she comes home for a short time at noon, will not unlikely learn, if she has time to listen at all to her husband's narrative, that the nurse threatens to leave, as it was no part of the agreement that she should have the baby in her arms, or be rocking it in the cradle, all the time, without having a minute she could call her own. Besides, it won't sleep, and she will be obliged to give it something to compose it, and to stop those horrid colics which are always worse after it gets spoon victuals. Sally, the chambermaid, declares that she cannot stay if little Johnny is allowed to kick and scratch and bite her so. Wilhelmina, the oldest daughter, instead of going to school, has gone to attend a meeting of a Woman's Rights Society, which she has heard her Ma talk so much about. As to James, who boasts of belonging to Young America, he has taken a holiday, for the purpose of acting the part of amateur supernumerary in a travelling menagerie. But what matters all this? The doctress, self-sacrificing soul, has a great duty to perform: she feels that she has a call to support the dignity and extend the rights of woman; and she is determined to act up to her part, cost what it may, even at the risk of her becoming almost a man!

Some may say, that a female physician need not marry, but continue, as many of her sex do, to lead a life of single blessedness; and as there are bachelor doctors, why not spinster doctresses? It is well known, however, that ladies are slow in placing full confidence in an unmarried male physician, and will there not be a risk of the gentlemen being equally squeamish in the case of an unmarried female one. All are not as communicative in describing the symptoms of their maladies as the hypochondriac, referred to just now. We think we hear an invalid say to his wife, "I agree in all you tell me about the merits of your young friend, Doctress A. She is intelligent, well read, and I dare say, in some respects, skilful; but then, you know, my dear, that we men (you must not laugh at our weakness), do not feel quite at our ease in detailing our symptoms and infirmities to a young lady as we would to one of our own sex, or even to the more mature Doctress B., who can laugh us out of our embarrassment, and elicit all she wants to know, and that is a good deal, while scarcely seeming to ask us any questions. She talks so much like a man about one's body and ailments, and the operation of remedies, and enlightens one so freely respecting certain physiological mysteries, that I forget she is a woman! I told her as much the other day, and she thanked me in most grateful terms for the compliment."

We cannot resist certain misgivings in the matter of medical consultations, under the new order of things, especially where a young doctor and a youthful doctress are brought together. On such occasions it will be difficult for the former to maintain an adverse opinion against the seductive eloquence of the lady, to whose wishes he feels himself almost instinctively bound to defer. It will take him some time to be fully aware of the seasoning or indurating process to which his fair fellow-practitioner has been subjected, before he can treat her as if she were one of his own brethren in petticoats.

MEDICAL TEACHING AND OPPORTUNITIES IN PHILADELPHIA.—It is improbable that many of those not directly interested in medical instruction know the extent of its ramifications in this city at the present time. Besides the four graduating Schools, an immense amount of talent, experience, and industry are engaged in supplying what, though auxiliary, can hardly be called subordinate portions of medical instruction, since they are, in some instances, parallel in importance to those of the Colleges. We propose to name some of the principal extra-collegiate facilities afforded here to the student or recent graduate.

First, we have the Pennsylvania Hospital, in which clinical instruction is given twice every week through the whole year, and daily during a portion of the summer. The present staff of this admirable institution consists of Drs. G. B. Wood, W. Pepper, W. W. Gerhard, and J. J. Levick, attending Physicians, and Drs. G. W. Norris, E. Peace, J. Neill, and J. Pancoast, attending Surgeons; besides a well-selected corps of resident surgeons and physicians. The advantages of this hospital are especially great for the study of practical surgery; the number of accidents alone brought into its wards, averaging, now, two per diem. The fine Medical Library of the Pennsylvania Hospital, the largest in the country, is accessible to students as well as to practitioners.

Wills' Hospital for Diseases of the Eye and Limbs, contains a large number of ophthalmic patients; while its *ambulatorium* exhibits, also, the treatment of a host of out-door applicants. No clinique is advertised at this hospital; but private students are admitted on prescribing days, to see cases and operations; and Drs. A. Hewson and W. Hunt conduct, during their terms, a combined course of demonstrative instruction. The other surgeons of Wills' Hospital, Drs. S. Littell and E. Hartshorne, receive pupils, but do not lecture.

The Obstetric Institute, established many years ago by Dr. Joseph Warrington, in connection with the Lying-in Charity of the Philadelphia Dispensary, is now conducted by Drs. E. Wilson and J. M. Corse. A very large number of cases of labor is attended annually under their supervision, by gentlemen connected with their classes; who also receive the benefit of practical lectures and exercises, and of a weekly clinique for diseases of females. Four courses of instruction are given every year in this institute.

Of a somewhat similar character are the private schools of Practical Obstetrics conducted, separately, by Dr. R. A. F. Penrose and Dr. E. McClellan.

The Western Clinical Infirmary is intended to realize the advantages of the classification of diseases and injuries for special treatment and study. Its medical officers are Drs. J. Klapp, O. H. Partridge, L. Turnbull, C. P. Turner, J. Aitken Meigs, G. R. Morehouse, D. D. Clark, R. L. Madison, W. H. Gobrecht, and E. McClellan. A series of lectures is contemplated by these gentlemen, in connection with the cliniques of the Infirmary.

Several of the more private courses of Lectures upon practical subjects are also illustrated by the examination and treatment of cases. Such are those of Dr. W. W. Gerhard on Diseases of the Lungs and Heart; Dr. J. Da Costa on Physical Diagnosis; Dr. J. H. Brinton on Operative Surgery; Dr. R. L. Madison on Surgery; Dr. C. S. Bishop on Practical Surgery; Dr. J. H. Packard on Minor Surgery and Bandaging;

Dr. J. Darrach on Diseases of the Urinary Organs, and Dr. L. Turnbull on Affections of the Eye and Ear.

Two of the gentlemen already mentioned are connected with the Association for Medical Instruction, whose lectures are confined to the summer season. The faculty of this, the oldest organization for extra-collegiate medical teaching in this city, now consists of Dr. Bridges, Lecturer on Chemistry; Dr. West, on Materia Medica; Dr. Wallace, on Anatomy; Dr. Keating, on Obstetrics; Dr. S. W. Mitchell, on Institutes of Medicine; Dr. Da Costa, on Practice; and Dr. Hewson, on Surgery.

Of private schools of Anatomy there are at least two: those of Dr. Agnew and of Dr. Forbes; besides a course on Pathological Anatomy, by Dr. Woodward. A course on the Microscope has been, also, given by Dr. J. C. Morris.

Practical Chemistry is systematically taught, with every facility, in several laboratories, of which we may name that of Mr. Booth as the most widely known.

Botany, with the aid of excursions into the country during the summer, is taught by Harlan Coultas and by Prof. Ennis.

By no means among the least important among the aids to the student or graduate, is the School of Practical Pharmacy, conducted by E. Parrish; from an introductory lecture delivered in which we have taken much of the matter of the above sketch. The courses in the Philadelphia College of Pharmacy are accessible to medical students as well as to druggists. Its faculty consists of Prof. R. Bridges, who lectures on Chemistry; Prof. R. P. Thomas on Materia Medica, and Prof. W. Procter on Pharmacy.

We ought not to omit allusion, in this brief summary, to the associations for *examining* students upon the different departments of medical study, of which several exist in connection with the different schools: nor to the combinations for affording office and other facilities for prolonged instruction, in which a number of prominent medical gentlemen are engaged. Nor, finally, is it a trifling advantage to the zealous student to have access to the magnificent collection of the Academy of Natural Sciences, to which his matriculating ticket will admit him two days in the week.

—

A DETECTOR DETECTED. — Having had occasion of late to expose some of the frauds that are so often perpetrated upon the literature of our profession, we were not a little astonished, some weeks ago, to see ourselves accused of harboring one of the worst of thieves, and such, upon examination, we found to be strictly true.

Some months ago, a medical gentleman of this city handed us for inspection, with a view to publication, a paper entitled "Strabismus, with some Novel Suggestions respecting the Operation for its Relief. By Thomas Graham, M.D., F.R.C.S., &c., late of Sydney, Australia," saying, at the same time, that he had a slight acquaintance with the author, who appeared to be a gentleman, and whose claim to the title attached to his name was substantiated by an exhibition of his diploma from the Royal College of Surgeons. Upon reading the article, we concluded to publish it, and did so in the March number of this journal, when lo and behold it proved to be a verbatim copy from a communication of Mr. Critchett to the pages of the Lancet.

Such is our connection with the

article in question, and such the rascality of the said Thomas Graham, F.R.C.S., late of Sydney, Australia, now supposed to be lurking about London. It is not unlikely that we may have seen Mr. Critchett's article in the Lancet, but we defy any one who is compelled to read from fifty to seventy-five periodicals per year to carry with him such an accurate recollection of their contents as to be able at once to detect an imposition such as we have been subjected to. We hope the Lancet or some other British periodical will do us the favor to expose the scoundrel who has thus attempted to steal his way into professional notice.

—

PROFESSOR VON MAUTHNER, OF VIENNA. — This distinguished and learned physician paid a visit to the medical, scientific, and charitable institutions of this city last September, and expressed himself much gratified with what he saw. Dr. Mauthner is the founder of the Children's Hospital at Vienna, one of the most celebrated establishments of the kind in Europe, the author of several able works on infantile diseases, and the editor of a journal expressly devoted to infantile pathology and therapeutics. His treatise on the "Dietetics of Children" is probably the best work that has ever appeared on the subject, and is well deserving of a translation into the English language.

Philadelphia was also favored, during the past summer, with a visit from Dr. Voss, Professor of Anatomy in Christiana University, Sweden. We had the pleasure of several interviews with him, and were most favorably impressed with his great intelligence and remarkable modesty. The visits of such men as Professors Voss and Mauthner cannot fail to exert a favorable influence upon their learned countrymen in regard to the medical men and medical institutions of the United States.

—

PATHOLOGICAL SOCIETY OF PHILADELPHIA.—Under this name a society has just been organized in this city, consisting principally of young men, who already occupy prominent positions in the profession, or who are rapidly rising to distinction and usefulness. The meetings are to be held once a fortnight throughout the year, and the exercises are to consist in the exhibition of specimens in Pathological Anatomy, and in the reading of papers upon kindred topics. Judging from the character and intelligence of the gentlemen composing the association, there is reason to believe that the proceedings will be conducted with great spirit, and that they will be productive of much good to the profession of Philadelphia, as well as the profession at large.

The officers of the society for the present year are,—

Dr. S. D. Gross, President.

Dr. R. La Roche, Dr. Alfred Stillé, Vice-Presidents.

Dr. J. Da Costa, Secretary.

Dr. Thos. G. Morton, Assistant-Secretary.

Dr. A. Hewson, Treasurer.

—

MORALS OF THE VIENNESE.—From the "Times and Gazette" we learn that, by the statistics published under the auspices of the Common Council Bureau of Vienna, the number of illegitimate births in that city has almost equalled the number of the legitimate births during the four years from 1853 to 1856. The following are the figures on the subject: 1853. Legitimate births, 11,264; illegitimate, 10,686. 1854. Legitimate births, 11,252; illegitimate, 10,801. 1855. Legitimate births, 10,650; illegitimate, 9,522. 1856. Legitimate, 10,870; illegitimate, 10,311.

—

LAUREL HILL CEMETERY.—During a recent visit to this beautiful city of the dead, we had an opportunity of seeing the monument which has been erected by the "Philadelphia Contributors" in memory of the physicians, druggists, and nurses, of this city, who volunteered to aid the sufferers by yellow fever at Norfolk and Portsmouth, Virginia, in 1855, and died in the discharge of their duties,—*martyrs to the cause of humanity.* It is a beautiful column of white marble, about twenty-five feet high, with appropriate devices and inscriptions, and comprises the names of Drs. Thomas Craycroft, Courtlen Cole, and Herman Kierson, with that of Edmund Barrett, Student of Medicine.

—

BUFFALO MEDICAL JOURNAL.—This journal is now edited by Professor Hunt and Dr. Austin Flint, Jr., the worthy son of its worthy founder. Dr. Flint is already favorably known by several valuable articles which he has contributed to periodical medical literature, and we greet his advent to the editorial corps with no ordinary satisfaction, knowing that his pen will do good service in the cause of American journalism.

—

MEDICAL INDEPENDENT.—We are gratified at the improved appearance of this journal, and welcome the addition of Professor Gunn to the editorial chair. In the October No. is an able and manly advocacy of such a clinical course in the University of Michigan, as the wants of medical students of the present day imperatively demand. We sincerely wish the Independent success in its endeavors to stimulate the Regents to place the Medical Department of the University upon a true hospital basis.

—

WE are gratified to learn that Messrs. Lippincott & Co. are about to put to press an English translation of Mons. Malgaigne's celebrated treatise on Fractures and Dislocations, by John H. Packard, M.D., of this city. The work will be accompanied by valuable additions by the American editor, and will be illustrated by numerous woodcuts, executed in the best style of the art. It need hardly be added that such a work has long been needed by the profession of this country.

—

ENLARGEMENT AND IMPROVEMENT OF THE REVIEW.—Beginning with the next year, the Publishers, with their well-known enterprise and liberality, have concluded to add to each number of this journal thirty-two pages, to be devoted principally to an analysis of the progress of American Medicine and Surgery for the preceding year. The volume, when thus enlarged, will contain a greater number of pages than any medical periodical published in this country, and the small addition to the subscription price will, we doubt not, be cheerfully submitted to by the present subscribers.

The enlargement, as just intimated, is intended to provide for a new and important improvement, one which has never been attempted in this country, so far as we know, and we are not aware that any of the European journals pursue the plan which we have adopted. It must be well known to every one, that under the present system of making extracts from the various journals, the most valuable papers, on account of their length, oftentimes pass almost entirely unnoticed, while many of little or no merit are universally copied on account of their brevity. To classify and to analyze these papers, and thus to exhibit what we, on this side of the Atlantic, are doing to advance the profession, is the object of the present enterprise. For this purpose, we have engaged the services of some of the most able men in the country, and have allotted to each his particular sphere of duty. The division of subjects which we have adopted is as follows:

1. Anatomy and Physiology.
2. Surgery.
3. Medicine.
4. Materia Medica and Therapeutics.
5. Obstetric Medicine.
6. Chemistry, Toxicology, and Medical Jurisprudence.

The work is already in progress, and the first number of the coming volume will contain a carefully elaborated digest of the discoveries and improvements made in anatomical and physiological knowledge in the United States during the past ten years. The other subjects will appear in the order abovementioned in the successive issues of the journal throughout the entire year. The names of the individuals by whom the articles are prepared will always be appended.

In addition, it is our intention to furnish from time to time analyses of the more valuable papers that have appeared in the older medical journals now extinct, and, therefore, not accessible to the members of the profession generally; and we hope thereby to enlighten many of our readers in regard to what our forefathers accomplished for scientific medicine, and to revive a knowledge of those who have honored the profession, and distinguished themselves, but whose names and works are now known only to a few.

—

NECROLOGY.

Died, on the 11th of August, at Brighton, England, of inanition, consequent upon stricture of the œsophagus, DR. MARSHALL HALL, in the 67th year of his age.

Dr. Hall's fame as a physiologist and philosophic physician is well known to the medical profession throughout all parts of the civilized world, and however much difference of opinion there may be concerning his merits as a man of true genius, all must acknowledge that he was an eminently active, enthusiastic, zealous cultivator of scientific medicine. Of this the number and character of his writings are sufficient proof.

Dr. Hall was born in Nottinghamshire, in the year 1790. His father was a manufacturer of cotton goods, a man of excellent mental endowments, of comfortable means, and of a respectable position in society.

Having received his general education at Nottinghamshire, and some instructions in medicine and chemistry at Newark, Dr. Hall went to Edinburgh, in 1809, and matriculated in the University, then in the noontide of its resplendent reputation. Here he took his degree in 1812, and having been immediately afterward appointed to the post of house-physician at the Royal Infirmary, commenced a course of lectures the ensuing year on the Principles of Diagnosis. He left Edinburgh in 1814, on a visit to the continent, and there travelled, mostly on foot, from one seat of medical learning to another, making himself personally acquainted with the various celebrities of Paris, Berlin, Giessen, Gottingen, and the other less distinguished cities of France and Germany. In 1815 he returned to his native place, and settled down for the practical pursuit of his profession. His success in obtaining business was unusually rapid and profitable, but urged by a higher ambition, he removed to London in 1826. During this time, however, he had made many physiological and pathological investigations, and in 1824 he read before the Royal Medical and Chirurgical Society, a paper, detailing his "Observations on Bloodletting, founded on Researches on the Morbid and Curative Effects of the Loss of Blood."

Having taken up his residence in the great metropolis, he continued his experiments upon the blood, directed now, however, more especially to the circulation of this fluid through the capillaries. In the course of these studies, his attention was accidentally directed to some of the phenomena of nervous action, as exhibited in the bodies and limbs of decapitated animals, and after repeated experiments, he announced the discovery of a new principle in nervous power, which he denominated "the excito-motory or reflex action." This is generally looked upon as his greatest achievement, although it is supposed by many that he was indebted to Prochaska for much that he claimed as his own. Since that time, up to the day of his death, his labors were devoted mainly to the study of the physiology and pathology of the nervous system, although, in the meanwhile, he lent his powers to the elucidation of many other questions connected with medicine and the collateral sciences, and cultivated the practice of his profession so successfully as to realize an ample fortune.

In 1853, Dr. Hall made a visit to the United States and Canada, and we have personal knowledge of the great surprise that he felt at finding the profession of our interior cities so fully acquainted with all the important medical facts recently suggested or established by our European brethren. In this, as in many other matters not immediately belonging to his sphere of study, he exhibited a remarkable degree of unsophistication, as is amply proved by his venturing to advise our people, through the public prints, in regard to one of our politico-social institutions, of which he was evidently as ignorant as the veriest of London cockneys.

Dr. Hall's contributions to the literature of medicine are numerous and varied. Besides his memoirs upon "Bloodletting," "On the Reflex Function of the Medulla Oblongata," "On the True Spinal Marrow and the Excito-Motor System of Nerves," and several papers on kindred subjects, presented to the Royal Society or communicated to the journals, he published several separate works, of which the principal are, "The Principles of Diagnosis," "The Effects of Irritation and Exhaustion after Parturition," "Commentaries on the Diseases of Females," "An Experimental Essay on the Circulation of the Blood," "The Principles of the Theory and Practice of Medicine," "Lectures on the Nervous System," "A Treatise on the Diseases and Derangements of the Nervous System," and "A Treatise on Epilepsy."

Bi-Monthly Bibliographical Record.

AMERICAN.

General Therapeutics and Materia Medica; adapted as a Medical Text-book, with Indexes of Remedies, and of Diseases and their Remedies. By Robley Dunglison, M.D., LL.D., &c. Sixth Edition, revised and improved; in two vols. 8vo. Philadelphia: Blanchard & Lea, 1857. (Received from the Publishers.)

A Collection of Remarkable Cases in Surgery. By Paul F. Eve, M.D., Professor of Surgery, University of Nashville. Philadelphia: J. B. Lippincott & Co. 1857. 8vo. (Received from the Publishers.)

The Medical Student's Vade Mecum; a Compendium of Anatomy, Physiology, Materia Medica, Practice of Medicine, Surgery, &c. &c. By Geo. Mendenhall, M.D., Prof. Obstetrics, Medical College of Ohio, &c. Fifth Edition, revised and enlarged, 8vo. pp. 690. Philadelphia: Lindsay & Blakiston, 1857. (Received from the Publishers.)

Transactions of the Indiana State Medical Society at its Eighth Annual Session, held at Indianapolis, May 19th, 1857.

Exsection of the Entire Os Calcis. By J. M. Carnochan, M.D., Prof. Surgery New York Medical College, &c. (Received from the Author.)

Illustrated Scientific and Descriptive Catalogue of Achromatic Microscopes, manufactured by J. & W. Grunow & Co. New Haven, Conn. (Received from Prof. B. J. Silliman, Jr., M.D.)

A case of Fibrous Tumor of the Uterus, accompanied with Excessive Hemorrhage, successfully treated by Excision. By B. F. Barker, M.D., Prof. Midwifery New York Medical College. New York, 1857. (Received from the Author.)

Report of an Operation for Removing a Foreign Body from beneath the Heart. By E. S. Cooper, A.M., M.D. San Francisco, 1857. (Received from the Author.)

Human Histology in its Relations to Descriptive Anatomy, Physiology, and Pathology. With 434 illustrations. By E. R. Peaslee, A.M., M.D., Prof. Physiology and Pathology, N. York Med. College, &c. &c. 8vo., pp. 616. Philadelphia, Blanchard & Lea, 1857. (Received from the Publishers.)

Report on the Vital Statistics of the United States, made to the Mutual Life Insurance Company of New York. By James Wynne, M.D. New York: H. Bailliere. 1857.

FOREIGN.

A Theoretical and Practical Treatise on Midwifery, including the Diseases of Pregnancy and Parturition, and the attentions required by the Child from Birth to the Period of Weaning. By P. Cazeaux, Adj. Prof. in Fac. Med. of Paris. Second American Edition, Translated from the Fifth French Edition, by W. R. Bullock, M.D. 8vo., with 140 illustrations. Philadelphia: Lindsay & Blakiston, 1857. (Received from the Publishers.)

Lectures on the Diseases of Women. By Chas. West, M.D., F.R.C.P., &c. Part I.—Diseases of the Uterus. 8vo. p. 316. Republished by Blanchard & Lea, Philadelphia, 1857. (Received from the Publishers.)

The Practice of Surgery. By James Miller, F.R.S.E., &c. Revised by the American Editor. Fourth American from the last Edinburgh Edition. 8vo. pp. 682. Philadelphia: Blanchard & Lea, 1857. (Received from the Publishers.)

Observations on the Human Crania contained in the Museum of the Army Medical Department, Fort Pitt, Chatham. By George Wilson, M.D. Dublin, 1857.

The Functions and Disorders of the Reproductive Organs in Youth, in Adult Age, and Advanced Life. By Wm. Acton. London, 1857.

God in Disease, or the Manifestations of Design in Morbid Phenomena. By J. F. Duncan. M.D. London, 1857. Pp. 323.

The Cattle Plague and Diseased Meat. Two Letters. By J. S. Gamgee. London, 1857. (Received from the Author.)

On the Function of the Thyroid Body. By O. Martyn, M.D., R.N. Proceedings of the Royal Society, Jan. 8, 1857.

Traité des Applications de l'Electricité a la Thérapeutique, Medicale et Chirurgicale. Par A. Becquerel, Médecin de l'Hopital de la Pitié. Paris.

INDEX TO VOL. I.

ABSORPTION by the large intestine, 447.
Abscess of the tibia, 113.
Abortion from patulous os uteri, 145.
  criminal, case of, 142.
Acetate of lead in inverted nail, 119.
Address by R. La Roche, M.D., 883.
Africa, Central, ethnology of, 463.
Agnew's edition of London Dissector, notice of, 254.
Allen, Jas., M.R.C S., on menstruation, 156.
Allen's Practical Anatomy, 254.
Almshouse Hospital, Blockley, 789.
American Med. Association, Transactions of, for 1856, 44.
American Med. Association, proceedings, for 1857, 617, 635.
American medical education, 301, 610.
  literature, 379.
American surgeon, decorated by Russia, 798.
Ammonia and its preparations, 435.
Amussat's operation, example of, 409.
Amylene, 307, 775.
Anæsthesia, a new mode of, 307.
  of uterus, 137.
Anatomy, Practical, by Wilson, notice of, 254.
  by Allen, notice of, 254.
  by Agnew, notice of, 254.
  Physiological, by Todd and Bowman, notice of, 575.
  study of legalized, 304.
Anæmia, by Ayres, 748.
Ancelon, M., on hooping-cough, 438.
Ancient Medicine, History of, by Watson, review of, 1.
  by Gauthier, review of, 1.
Aneurisms and their Treatment, by Broca, review of, 211, 321.
Aneurism, popliteal, treated by compression, 281.
  treatment of, by manipulation, 755.
Annan, Robert, on tetanus, 130.
Apnœa, treatment of, 436.
Arabian surgery, 311.
Arabia, diseases of, 705.
Armor, S. G., M.D., appointment of, 796.
Arteries, ligature of, by Gibbons, 78.
Arteria innominata, ligature of, 117.
Artificial Vichy water, 474.
Army med. staff, admissions into, 305.
Assafœtida in hooping-cough, 438.
Arsenical poisoning, 446.
Ascites and anasarca, 448.

Barclay, R. G., M.D., on diseases of Syria and Arabia, 705.
Bartlett on the Fevers of the United States, review of, 161.
Barton on Yellow Fever, notice of, 241.
Bamberger on pericarditis, 128.
Bayless, Dr. J. W., appointment of, 796.
Beck's Materia Medica, notice of, 60.
Belladonna applied to the breast, 462.
Bell, Dr. T. S., appointment of, 796.
Bemiss, S. M., M.D., on marriages of consanguinity, 97.
  compliment to, 637.
Bernard on the temperature of the blood, 109.
Bernard's Experimental Physiology, review of, 529, 699.
Bertolet, P. G., M.D., on prolapsus uteri, 294.
Blackie, Geo. S., M.D., on Cretinism, notice of, 38.
  appointment of, 797.
Blood, temperature and coagulation of, 109.
Blackman, Geo. C., M.D., notes to Velpeau's Surgery, 57.
  on aneurism, 755.
  on lagopthalmos, 426.
Blache, Dr., on chorea, 125.
Bladder, foreign body in, 413.
Blastema, Bowen on the, 719.
Blisters to cervix uteri, 783.
Blockley Hospital, disgraceful appointment to, 789.
Blaney, J. V. Z., M.D., appointment of, 476.
Blodgett on Climatology, notice of, 874.

Bozeman on urethro-vaginal and vesico-vaginal fistules, 576, 885.
Bozeman's operation in England, 157.
Bonpland, age of, 318.
Bowen, W. S., M.D., on the parent tissue, 719.
Boeck on syphilization, 758.
Boling, W. M., M.D., two surgical cases, 606.
Bowman's (Todd and) Physiology, notice of, 575.
Brown, J. B., on sterility, 455.
Broca on Aneurisms, review of, 211.
Breast, treatise on the, by Velpeau, review of. 193.
Bronzed skin and cirrhosed liver, 614.
Brickell, D. W., M.D., on menstruation, 453.
Butler, S. W., M.D., on lacerated perineum, 110.
Burning of the University of Louisville, 307.
Byford, W. H., M.D., on spina bifida, 120.

Cazeaux, P., treatise on Midwifery, &c., by, notice of, 883.
Calculus, intestinal, 127.
Campbell, Robt., M D., on inverted toe-nail, 424.
  H. J., M.D., appointment of, 638.
Cancer of the Breast, by Velpeau, review of, 193.
  of the uterus, 454.
  Treatment of, by Fell, 688.
Carriere's Climate of Italy, review of, 801.
Carswell, the late Sir Robert, notice of, 799.
Carbonic acid, a local anæsthetic, 137.
  in the production of abortion, 139.
  effect on the uterus, 139.
Catalogue of Pennsylvania Hospital Library, notice of, 880.
Cataract, lamellar, 743.
Chloroform in tetanus, 121.
Chorea, treatment of, 125.
Charcoal in cholera, 132
Churchill on Diseases of Women, review of, 695.
Changes in medical schools, 796.
Chlorate of potash in ulcerations of mouth, 448.
  in pertussis, 448.
Change of Life, by Tilt, notice of, 575.
Cirrhosis of liver, with bronzed skin, 604.
Cliff, D. B., M.D., on peritonitis, 299.
Climate, influence of, on tubercular disease, 801.
Climate of Pau, treatise on, by Taylor, review of, 801.
  Italy, by Carriere, review of, 801.
Climatology of United States, treatise on, by Blodgett, notice of, 874.
Clinical Lectures on the Urinary Organs, by Todd, review of, 858.
Controversy about the late Mr. Liston, 154.
Comegy's translation of Renouard's History of Medicine, review of, 1.
Copaiba as an injection, 114.
Colon, stricture of, 409.
Consumption, night-sweats of, 433.
Coindet, Dr., injustice to, 311.
Colles' surgical cases, 763.
Concretions of prostate, 769.
Consumption treated with glycerine, 770.
Cock, Thos. F., on uterine hemorrhages, 778.
Comparative Physiology, by Jones, notice of, 697.
Colica pictonum, 605.
Coolidge, R. H., M.D., Report on the Sickness of the U. S. Army, review of, 561.
Craig on electric influence, 439.
Crania Britannica, review of, 665.
Crania, Catalogue of, by Meigs, notice of, 570.
Cretins and Cretinism, thesis on, by Blackie, notice of, 38.
Curiosities of mineral springs, 787.

Darley, B. G., M.D., on the taxis, 429.
Davis's Crania Britannica, review of, 665.
Dark side of war, 474.
Demarquay on vaginitis, 118.
Digestion, experiments on, by F. G. Smith, M.D., 598.
Diseases of the Female Sexual Organs, by F. Scanzoni, review of, 832.
Diseases of the Eye, by Dixon, review of, 351.
  Urinary Organs, by R. B. Todd, review of, 858.
  Ear, by Nottingham, notice of, 878.
  Skin, by E. Wilson, notice of, 879.
  Breast, by Velpeau, review of, 193.
Dickson, S. N., M.D., Elements of Medicine, review of, 161.
Dislocation of the thumb, new mode of reduction, 113.
  tibia, 298.
  femur into sacro-sciatic notch, reduced by manipulation, 933.
Doe, J. N., M.D., on dislocation of the thumb, 113.
Dog-latin, 158.
Duncan, R. V., M.D., on puerperal fever, 931.
Dupierris, M., M.D., Report on the Medical Topography of Havana, review of, 870.
Dupierris, M., M.D., on the treatment of uterine hemorrhages, 83.
Dupuytren, reminiscences of, 312.
Dysentery treated with iodine, 451.
Dyspepsia, lactic acid in, 772.

Ear, Diseases of, by Nottingham, notice of, 878.

Editorial labor, 148.
Editing medical books, 639.
Education, medical, American system of, 301, 610.
Effects of Climate on Tuberculous Disease, by Lee, review of, 801.
Elements of Operative Surgery, by Velpeau, notice of, 57.
Elements of Medicine, by Dickson, review of, 161.
Electricity a cause of disease, by Littell, 390.
    by Craig, 439.
Ellis, Mr., on abortion, 145.
Encephaloid, tumor of, in cranium, 929.
Erysipelas and puerperal fever, 600.
Esculapius the son of Apollo, 475.
Ethnology of Central Africa, 403.
Eulogium on Roux, 312.
Excision of os calcis, 762.
Eye, Diseases of, by Dixon, review of, 501.
Eyre, Sir Jas., obituary of, 799.

Fell, on the Treatment of cancer, 688.
Female Sexual Organs, treatise on, by Scanzoni, review of, 832.
Female med. colleges and doctors, 942.
Femur, dislocation of six months' standing reduced, 290.
Femur, dislocation of, into sciatic notch, reduced by manipulation, 933.
Fenner, C. S., M.D., on granular conjunctivitis, 66
Fevers of the United States, treatise on, by Bartlett, review of, 161.
Fever, Yellow, at New Orleans, treatise on, by Barton, review of, 241.
Finnell, J. C., M.D., on criminal abortion, 142.
Fischer's Catalogue of Pennsylvania Hospital Library, 880.
Fistules, urethro-vaginal and vesico-vaginal, by Bozeman, 576, 885.
Foreign text-books, 797.
Fricke, C. J., M.D., on bronzed skin with cirrhosed liver, 604.

Gadbury, W. Y., M.D., election of, 476.
Gangrene, senile, by Markoe, 431.
German Universities, students at, 798.
Gibbons, T.P., M.D., on ligation of arteries, 78.
Gibbs, O. C., M.D., on the economical use of quinia, 79.
Gibbs, O. C., M.D., on pregnancy, after long-suppressed menstruation, 741.
Glycerine and tannin in vaginitis, 118.
    in consumption, 770.
Gliddon, Geo. R., on Ethnology, review of, 665.
Gosselin on ranula, 114.
Gonorrhœa treated by injections of copaiba, 114.
Granular conjunctiva, by Fenner, 66.
Graham, B. F., M.D., on quinoidine, 412.
Graduates, medical, for 1857, 476.
Graham, Thomas, M.D., on strabismus (plagiarized from Critchett), 259.
Gross, S.D., M.D., a new tourniquet, by, 96.
    on dislocation of tibia forward, 298.
    Report on American Medical Literature, review of, 319.
    Pathological Anatomy, treatise on, notice of, 702.
    case of lead pencil in the bladder, by, 413.
Gross, S. W., M.D., case of scirrhus of liver, 414.
Guerin on Nervous Irritation, review of, 641.
    on Intermittent Fevers, review of, 641.
Guy's Hospital Reports for 1856, review of, 548.
Gymnastic exercise in chorea, 125.

Hall, Dr. Marshall, on resuscitation of stillborn infants, 146.
Hall, Dr. Marshall, notice of death of, 952.
Hamilton, F., M.D., on abscess of tibia, 113.
Hammond, Wm. A., M.D., on excretion of phosphoric acid by the kidneys, 730.
Hardin, J. M., M.D., on transverse presentations of fœtus, 73.
Hare-lip, new suture for, 309.
Havana, Medical Topography of, 870.
Hemorrhage, uterine, iodine in, 83.
        secondary, by Cock, 778.
        ice in, 451.
        cancer of cervix, 454.
    from socket of tooth, 606.
Hentz, Chas. A., M.D., on hooping-cough, 285.
Henry, G. R., M.D., on stricture of colon, 409.
    on dislocation of femur, 933.
Headland, Dr. F. W., on coagulation of blood, 109.
Hernia, taxis in, 429.
    inguinal, 766.
    strangulated, with inflamed testis, operation in, 767.
    on the back, 768.
    ventral, rare case of, 768.
History of Medicine, treatise on, by Renouard, review of, 1.
History of medicine, treatise on, by Watson, review of, 1.
History of medicine, by Gauthier, review of, 1.
Hinkle, F., M.D., on traumatic tetanus, 121.
Hinds, Dr., on arsenical poisoning, 446.
Hildreth, E. A., M.D., on introduction of ice into uterus, 451.

Historical Sketch of Quarantine, by W. Jewell, M.D., review of, 356.
Hollingsworth, Dr. S. L., and the Medical Examiner, 152.
Homœopathists in Massachusetts Medical Society, 155.
Horseflesh used as food, 159.
Hooping-cough, by Hentz, 285.
    treated with assafœtida, 438
Holland, Sir H., Medical Notes, review of, 368.
Howell, John D., M.D., notice of death of, 799.
Hogg, Jabez, treatise on the Microscope by, review of, 571.
Huston, Prof., resignation of, 638.
Hunt, W., M.D., notes to Wilson's Dissector, by, notice of, 254.
Hullihen, S. P., M.D., notice of death of, 478.
Hydrocele, injection of, 766.
    resulting from hernia, 766.
    mistaken for hernia, 767.

Ice, introduction of, into uterus, 451.
Iceland moss gelatinized with cod-liver oil, 450.
Indiana State Medical Society's Transactions, notice of, 61.
Intestinal calculus, very large, 127.
Inversio uteri, cases of, by Bertolet, 294.
Inverted toe-nail, treatment of, 424.
Intestine, large, absorption from, 447.
Intermittence in Health and Disease, treatise on, by Pallas, review of, 641.
Intermittent Fevers, treatise on, by Guerin, review of, 641.
Indigenous Races, treatise on, by Nott and Gliddon, review of, 665
Iodine in uterine hemorrhages, 83.
    in dysentery, 451.
    in vomiting in pregnancy, 451.
    in ovarian dropsy, 429.
    in large doses, mode of administering, 450.
Iron, perchloride of, as a hemostatic, 45.
    in panniform keratitis, 117.
Isambert on chl. potass in pertussis, 448.

Jefferson Medical College, change in, 795.
Jewell, W., M.D., on the mortality of Philadelphia, 268, 415, 934.
Jewell, W., M.D., Address on Quarantine, review of, 356.
Journalism, medical, in Paris, 475.
Jones, Joseph, M.D., Physiological Investigations, notice of, 697.
Johns, Robert, on blisters to cervix uteri, 783.

Kane, E. K., M.D., notice of death of, 478.
Kempf, M., M.D., on ovariotomy, 738.
Kirkes, W. S., Manual of Physiology, notice of, 704.
Kidneys, excretion of phosphoric acid by, 730.
Kluge, J. P., M.D., encephaloid tumor in cranium, 929.
Kneeland's surgical statistics of Massachusett's General Hospital, 115.
Kunkler, G. A., M.D., on colica pictonum, 605.
    on prolapsus uteri, 927.

Laceration of perineum, 110, 288.
Lactic acid in dyspepsia, 772.
La Roche, R., M.D., Address by, notice of, 883.
Lagophthalmos, case of, 426.
Lamellar cataract, case of, 743.
Lead pencil in the bladder, 413.
Lee, Ed., Essay on Climate in Tubercular Disease, review of, 801.
Lehman on stricture of the uterus, 140.
Lessons in Experimental Physiology, by Bernard, review of, 529.
Levergood, J., M D., on puerperal fever, 600.
Ligation of arteries, 78.
Ligation of innominate artery, successful, 117.
Libel, suit for, by Dr. Goadby, 157.
Library Pennsylvania Hospital, Catalogue of, notice of, 880.
Littell, A., M.D., on effects of electricity in the production of disease, 390.
Livingston, Dr., 309.
Liver, scirrhus of, in an infant, 414.
Louisville University, burning of, 306.

Martin, J. R., M.D., Treatise on Tropical Climates, review of, 481.
Marriages of consanguinity, by Bemiss, 97, 797.
Maisonneuve on hemostatics, 115.
Manipulation, reduction of dislocation by, 290, 933.
    treatment of aneurism by, 755.
Markoe, Dr., on senile gangrene, 431.
Manual of Physiology, by Kirkes, notice of, 704.
Maund, John, M.D., case of poisoning by turpentine, 772.
Materia Medica, treatise on, by Wood, notice of, 65.
Materia Medica, treatise on, by Beck, notice of, 60.
Materia Medica, treatise on, by Mitchell, notice of, 884.
Massachusetts General Hospital, surgical statistics of, 115.
Mayo, Dr., election of, 308.
McClintock, Dr. James, election of, to Blockley Hospital, 787.
Medical Notes and Reflections, by Holland, review of, 368.
Medical Literature, American, by Gross, review of, 379.
Medicine, History of, by Renouard, review of, 1.
    by Watson, review of, 1.

Medicine, History of, by Gauthier, review of, 1.
Spanish, 467.
in Syria and Arabia, 705.
Principles of, by Williams, review of, 877.
Medical Topography of Havana, report on, review of, 870.
teachings and opportunities in Philadelphia, 948.
Meeting of American Medical Association at Nashville, 794.
Menstruation, decline of, 142.
physiology of, 453
Meigs, Chas. D., M.D., treatise on Obstetrics, notice of, 258.
Meigs, J. A., M.D., Catalogue of Crania, notice of, 570.
appointment of, 305.
Metcalfe, Saml., M.D., notice of death of, 477.
Microscope in diagnosis of phthisis, 123.
treatise on, by Hogg. notice of, 571.
Midwifery, &c., treatise on, by Cazeaux, notice of, 883.
Miller, Hugh, notice of death of, 319.
Milk, secretion of, arrested by belladonna, 462.
Miller, James, treatise on the Practice of Surgery, notice of, 882.
Mineral springs, virtues of, 631.
curiosities of. 787.
of the Pyrenees, treatise on, review of, 801.
Mitchell, T. D., election of, 796.
treatise on Materia Medica, notice of, 884.
Montgomery, W. F., M.D., treatise on the Signs and Symptoms of Pregnancy, review of, 249, 694.
Monomania, suicidal, 472.
Morroh C., M.D., on exsection of os calcis, 762.
Morals of the Viennese, 950.
Mortality, statistics of Philadelphia, for 1856, 268.
Mortality, statistics of Philadelphia, for 1857, 415, 934.

Nail in the flesh, 119.
Nancrede, J. G., M.D., notice of death of, 478.
Newton, Prof. S. M., M.D., resignation of, 638.
Night-sweats, treatment of, 433.
Nottingham, John, treatise on the Ear, notice of, 878.
Nott, Dr. J. C. (and Gliddon) treatise on the Indigenous Races, review of, 665.
Nott, Dr. J. C., appointment of, 476.

Obstetrics, the Science and Art, by Meigs, notice of, 258.
Obliteration of the portal vein, 108.
Œdema of the prepuce, 765.
Oil of turpentine, poisoning by, 772.
Operative Surgery, Elements of, notice of, 57.
Opium trade, 466.
Ophthalmological congress, 797.
Oré, M., on obliteration of portal vein, 103.
Ovarian dropsy, treatment of, 429.
discussion upon, 456.
tumor, excision of, 157, 738.

Paris, Dr. John, notice of death of, 320.
Paralysis of orbicularis palpebrarum, 426.
Parent tissue and blastema, 719.
Paraphimosis, treatment of, 764.
Patulous os uteri a cause of abortion, 145.
Pathological Anatomy, Elements of, by Gross, notice of, 702.
Pathological Society of Philadelphia, organization of, 950.
Peixoto, M., successful ligature of innominate artery, by, 117.
Pendleton, E. M., M.D., on spina bifida, 428.
Penis, tumor of, 765.
Pennsylvania Hospital Library Catalogue, notice of, 880.
Medical Society, proceedings, 628, 633.
Perineum, laceration of, 110, 288.
Perineal incision, by Gross, 413.
Perchloride of iron as a hemostatic, 115.
in panniform keratitis, 117.
Pericarditis, by Bamberger, 128.
the result of criminal abortion, 142.
developed by pregnancy, 299.
Periodicity, a review, 641.
Phthisis, diagnosis of, by the microscope, 123.
Philadelphia County Medical Society, officers for 1857, 306.
Hospital, Blockley, 789.
Physiology, Experimental, by Bernard, review of, 529, 699.
Manual of, by Kirkes, notice of, 704.
Physiological Anatomy, by Todd and Bowman, notice of, 575.
Physician's Pocket-book, &c., by Wythes, notice of, 569.
Visiting List, notice of, 884.
Phosphoric acid, excretion of, by kidneys, 730.
Pitting in small-pox, prevention of, 434.
Plagiarism, 637, 948.
Pneumonia, treatment of, 602.
Popliteal aneurism, treated by compression, 281.
artery, perforation of, by exostosis, 608.
Poisoning by strychnine, 434.
by colored wall-paper, 446.
by turpentine, 772.
Pope, C. J., M.D., on pneumonia, 602.
Potash, chlorate of, in membranous stomatitis, 448.
Practice of Surgery, treatise on, by Smith, review of, 26.

Practice of Surgery, treatise on, by Miller, notice of, 882.
Presentations, transverse, of fœtus, 73.
Premature labor induced by carbonic acid, 139.
Pregnancy, Signs and Symptoms, by Montgomery, review of, 249, 694.
  Diseases of, by Churchill, notice of, 695.
  in suppressed menstruation, 741.
Prepuce, œdema of, 765.
Principles of Medicine, treatise on, by Williams, notice of, 877.
Prostate, concretions of, 769.
Prolapsus uteri, 294, 927.
Psychology of acute rheumatism, 922.
Puerperal fever and erysipelas, 600.
  treated with iron and opium, 931.

Quackery, swindling, 153.
Quarantine, History of, by Jewell, review of, 356.
  convention, proceedings, 623, 636.
Quinoidine, a substitute for quinine, 412.
Quinia, economical use of, 79.
Quis custodet custodes, 301.

Races, Indigenous, by Nott and Gliddon, review of, 665.
Ranula, treatment of, 114.
Ready method for resuscitating the asphyxiated, 436.
Reduction of femoral dislocation by manipulation, 290, 933.
  of dislocated thumb by a new method, 113.
Removal of tumors by a new method, 429.
Reminiscences of Dupuytren, 312.
Renouard's History of Medicine, review of, 1.
Rheumatism, acute, psychology of, 922.
Robert, M., and others, on amylene, 775.
Rochard, M. Jules, on Sea-Voyages in Consumption, review of, 801.
Roux, eulogium on, 312.
Rules for resuscitating stillborn infants, 146.
Rupture of the urethra, 764.
Rupture of the perineum, 110, 288.

Scanzoni, Dr. F. W., Diseases of the Female Sexual Organs, review of, 832.
  on carbonic acid to produce abortion, 139.
Scirrhus of the liver in an infant, 414.
Secretion of bile, experiments on, 108.
Senile gangrene, 431.
Sickness and Mortality of U. S. Army, report on, review of, 561.
Signs and Symptoms of Pregnancy, by Montgomery, review of, 249, 694.
Simpson, Prof., on carbonic acid as a local anæsthetic, 137.
  on a new mode of removing tumors, 429.
Skin, Diseases of, by Wilson, review of, 879.
Smith, H. H., M.D., treatise on Surgery by, review of, 26.
Smith, Francis G., M.D., experiments on digestion, 598.
Spanish medicine, 467.
Speculum, use of, 783.
Sphere of editorial labor, 148.
Spina bifida, three cases of, 428.
Strabismus, a new mode of operating for (a plagiarism), 259.
Statistics of Massachusetts General Hospital, 115.
Stillborn infants, resuscitation of, 146.
Sterility induced by diseases of rectum, 455.
Stricture of the uterus, 140.
  of the colon, 409.
Strychnine, treatment of poisoning by, 434.
  its uses and abuses, 444.
Students at the German Universities, 798.
Surgery, treatise on, by Smith, review of, 26.
  by Velpeau, notice of, 57.
  Practice of, by Miller, notice of, 882.
Suicidal monomania, 472.
Superannuated medical teachers, 310.
Syphilization, by Boeck, 758.

Taggart, W. H., M.D., appointment of, 306.
Tannin and glycerine in vaginitis, 118.
Taxis, new mode of employing, 429.
Taylor, M. A., M.D., treatise on the Climate of Pau, review of, 801.
Testis, misplaced, case of, 765.
Tetanus, traumatic and idiopathic, 121, 130.
Text-books, 797.
Temperature of blood, 109.
Therapeutics and Pharmacology, by Wood, notice of, 65.
Thumb, dislocation of, 113.
Thurman, John, M.D., Crania Britannica, review of, 665.
Tibia, dislocation of, forward, 298.
  chronic abscess of, 113.
Tilt, E. J., M.D., on the Change of Life, notice of, 575.
Toe-nail, inversion of, 424.
Todd, Robert B., M.D., on the Urinary Organs, review of, 858.
Todd and Bowman's Physiological Anatomy, notice of, 575.
Topography of Havana, 870.
Tourniquet, a new form of, by Gross, 96.
Trabue, B. F., M.D., case of lacerated perineum, by, 288.
Transactions of American Medical Association for 1856, notice of, 44.
Transactions of Indiana State Medical Society, notice of, 61.
Transverse presentations of fœtus, 73.
Tubercular Diseases, Effect of Climate on, 801.

Tumors, removal of, by a new method, 429.
Turpentine, poisoning by, 772.

Uterine hemorrhage, a new mode of treatment of, 83.
  ice in, 451.
  secondary, 778.
 diseases, local anæsthetics in, 137.
Uterus, gravid, effects of carbonic acid on, 139.
 stricture of, 140.
 inversion of, 294.
 cancer of, 454.
 blisters to neck of, 783.
Ulcerations of mouth and throat, chlorate potass in, 448.
Urinary Organs, Diseases of, by Todd, 858.
Urethro-vaginal and vesico-vaginal fistules, 576, 885.
Vesico-vaginal fistules, by Bozeman, 576, 885.
Von Mauthner, visit of, to Philadelphia, 950.
Voss, Dr., visit of, to Philadelphia, 950.

Ward, Dr. O. G., on anemia, 435.
Weber, G. C. E., M.D., appointment of, 306.
Williams, C. J. B., treatise on Principles of Medicine, notice of, 877.
Wilson. E., on diseases of the skin, notice of, 879.
Wheelock, Albert T., M.D., on the psycholgy of acute rheumatism, 922.
Wood's Therapeutics and Pharmacology, notice of, 65.
Wood, Mr. A. G., on a new hare-lip suture, 309.

Yellow Fever, Cause and Prevention of, by Barton, notice of, 241.

LIST OF COLLABORATORS.

Walter F. Atlee, M.D., Philadelphia.

John Bell, M.D., Philadelphia, formerly Professor of Medicine, Medical College of Ohio.

T. S. Bell, M.D., Louisville, Ky.

S. M. Bemiss, M.D., Louisville, Ky.

L. P. Blackburn, M.D., Natchez, Miss.

G. C. Blackman, M.D., Professor of Surgery, Medical College of Ohio.

J. L. Bobbs, M.D., formerly Professor of Anatomy, Indianapolis.

W. M. Boling, M.D., Montgomery, Ala., formerly Professor of Midwifery, Transylvania University, Lexington, Ky.

N. Bozeman, M.D., Montgomery, Ala.

J. T. Bradford, M.D., Augusta, Ky.

John H. Brinton, M.D., Lecturer on Operative Surgery, Philadelphia.

W. S. Chipley, M.D., Professor of Medicine, Transylvania University.

A. Clapp, M.D., New Albany, Ia.

D. B. Cliffe, M.D., Franklin, Tenn.

J. Da Costa, M.D., Lecturer on the Practice of Medicine, at the Philad. Med. Association.

M. Dupierris, M.D., Havana, Cuba.

W. F. Edgar, M.D., United States Army.

S. C. Farrar, M.D., Jackson, Miss.

C. S. Fenner, M.D., Memphis, Tenn.

Austin Flint, M.D., Professor of Clinical Medicine and Pathology, University of Buffalo.

W. Y. Gadbury, M.D., Benton, Miss.

O. C. Gibbs, M.D., Chautauque County, New York.

Dr. J. P. Hall, Glasgow, Ky.

John Hardin, M.D., Professor of Obstetrics, Kentucky School of Medicine, Louisville.

Edward Hartshorne, M.D., One of the Surgeons to Wills' Hospital for Diseases of the Eye, Philadelphia.

E. B. Haskins, M.D., Clarksville, Tenn., late President of the Tennessee State Medical Society.

C. A. Hentz, M.D., Marianna, Florida.

ADDINELL HEWSON, M.D., One of the Surgeons to Wills' Hospital for Diseases of the Eye, Philadelphia.

SAMUEL L. HOLLINGSWORTH, M.D., late Editor of the Medical Examiner, Philadelphia.

WILSON JEWELL, M.D., Philadelphia.

G. A. KUNKLER, M.D., Madison, Ia.

BEN. LOGAN, M.D., Shreveport, La.

A. LOPEZ, M.D., Mobile, Ala., formerly President of the Alabama State Medical Society.

B. I. RAPHAEL, M.D., New York.

J. C. REEVE, M.D., Dayton, Ohio.

L. C. RIVES, M.D., formerly Professor of Midwifery, Medical College of Ohio.

J. LAWRENCE SMITH, M.D., Professor of Chemistry, University of Louisville.

W. C. SNEED, M.D., Frankfort, Ky., President, Kentucky State Medical Society.

C. H. SPILMAN, M.D., Harrodsburg, Ky., late President of Kentucky State Medical Society.

GEO. SUTTON, M.D., Aurora, Ia.

W. L. SUTTON, M.D., Georgetown, Ky., formerly President Kentucky State Medical Society.

S. THOMPSON, M.D., Albion, Ill.

E. WILLIAMS, M.D., Cincinnati, Ohio.

LIST OF COLLABORATORS.

Walter F. Atlee, M.D., Philadelphia.

John Bell, M.D., Philadelphia, formerly Professor of Medicine, Medical College of Ohio.

T. S. Bell, M.D., Louisville, Ky.

S. M. Bemiss, M.D., Louisville, Ky.

L. P. Blackburn, M.D., Natchez, Miss.

G. C. Blackman, M.D., Professor of Surgery, Medical College of Ohio.

J. L. Bobbs, M.D., formerly Professor of Anatomy, Indianapolis.

W. M. Boling, M.D., Montgomery, Ala., formerly Professor of Midwifery, Transylvania University, Lexington, Ky.

N. Bozeman, M.D., Montgomery, Ala.

J. T. Bradford, M.D., Augusta, Ky.

John H. Brinton, M.D., Lecturer on Operative Surgery, Philadelphia.

W. S. Chipley, M.D., Professor of Medicine, Transylvania University.

A. Clapp, M.D., New Albany, Ia.

D. B. Cliffe, M.D., Franklin, Tenn.

J. Da Costa, M.D., Lecturer on the Practice of Medicine, at the Philad. Med. Association.

M. Dupierris, M.D., Havana, Cuba.

W. F. Edgar, M D., United States Army.

S. C. Farrar, M.D., Jackson, Miss.

C. S. Fenner, M.D., Memphis, Tenn.

Austin Flint, M.D., Professor of Clinical Medicine and Pathology, University of Buffalo.

W. Y. Gadbury, M.D., Benton, Miss.

O. C. Gibbs, M.D., Chautauque County, New York.

Dr. J. P. Hall, Glasgow, Ky.

John Hardin, M.D., Professor of Obstetrics, Kentucky School of Medicine, Louisville.

Edward Hartshorne, M.D., One of the Surgeons to Wills' Hospital for Diseases of the Eye, Philadelphia.

E. B. Haskins, M.D., Clarksville, Tenn., late President of the Tennessee State Medical Society.

C. A. Hentz, M.D., Marianna, Florida.

ADDINELL HEWSON, M.D., One of the Surgeons to Wills' Hospital for Diseases of the Eye, Philadelphia.

SAMUEL L. HOLLINGSWORTH, M.D., late Editor of the Medical Examiner, Philadelphia.

WILSON JEWELL, M.D., Philadelphia.

G. A. KUNKLER, M.D., Madison, Ia.

WM. V. KEATING, M.D., Lecturer on Obstetrics and the Diseases of Women, in the Philadelphia Medical Association.

BEN. LOGAN, M.D., Shreveport, La.

A. LOPEZ, M.D., Mobile, Ala., formerly President of the Alabama State Medical Society.

B. I. RAPHAEL, M.D., New York.

J. C. REEVE, M.D., Dayton, Ohio.

L. C. RIVES, M.D., formerly Professor of Midwifery, Medical College of Ohio.

J. LAWRENCE SMITH, M.D., Professor of Chemistry, University of Louisville.

W. C. SNEED, M.D., Frankfort, Ky., President, Kentucky State Medical Society.

C. H. SPILMAN, M.D., Harrodsburg, Ky., late President of Kentucky State Medical Society.

GEO. SUTTON, M.D., Aurora, Ia.

W. L. SUTTON, M.D., Georgetown, Ky., formerly President Kentucky State Medical Society.

HORATIO R. STORER, M.D., One of the Physicians to the Boston Lying-in Hospital, Boston, Mass.

S. THOMPSON, M.D., Albion, Ill.

E. WILLIAMS, M.D., Cincinnati, Ohio.

LIST OF COLLABORATORS.

Walter F. Atlee, M.D., Philadelphia.

John Bell, M.D., Philadelphia, formerly Professor of Medicine, Medical College of Ohio.

T. S. Bell, M.D., Louisville, Ky.

S. M. Bemiss, M.D., Louisville, Ky.

L. P. Blackburn, M.D., Natchez, Miss.

G. C. Blackman, M.D., Professor of Surgery, Medical College of Ohio.

W. S. Bowen, M.D., New York.

J. L. Bobbs, M.D., formerly Professor of Anatomy, Indianapolis.

W. M. Boling, M.D., Montgomery, Ala., formerly Professor of Midwifery, Transylvania University, Lexington, Ky.

N. Bozeman, M.D., Montgomery, Ala.

J. T. Bradford, M.D., Augusta, Ky.

John H. Brinton, M.D., Lecturer on Operative Surgery, Philadelphia.

W. S. Chipley, M.D., Professor of Medicine, Transylvania University.

A. Clapp, M.D., New Albany, Ia.

D. B. Cliffe, M.D., Franklin, Tenn.

J. Da Costa, M.D., Lecturer on the Practice of Medicine, at the Philad. Med. Association.

M. Dupierris, M.D., Havana, Cuba.

W. F. Edgar, M.D., United States Army.

S. C. Farrar, M.D., Jackson, Miss.

C. S. Fenner, M.D., Memphis, Tenn.

Austin Flint, M.D., Professor of Clinical Medicine and Pathology, University of Buffalo.

W. Y. Gadbury, M.D., Benton, Miss.

O. C. Gibbs, M.D., Chautauque County, New York.

Dr. J. P. Hall, Glasgow, Ky.

John Hardin, M.D., Professor of Obstetrics, Kentucky School of Medicine, Louisville.

Edward Hartshorne, M.D., One of the Surgeons to Wills Hospital for Diseases of the Eye, Philadelphia.

E. B. Haskins, M.D., Clarksville, Tenn., late President of the Tennessee State Medical Society.

C. A. HENTZ, M.D., Marianna, Florida.

ADDINELL HEWSON, M.D., One of the Surgeons to Wills Hospital for Diseases of the Eye, Philadelphia.

SAMUEL L. HOLLINGSWORTH, M.D., late Editor of the Medical Examiner, Philadelphia.

WILLIAM A. HAMMOND, M.D., United States Army.

WILSON JEWELL, M.D., Philadelphia.

G. A. KUNKLER, M.D., Madison, Ia.

WM. V. KEATING, M.D., Lecturer on Obstetrics and the Diseases of Women, in the Philadelphia Medical Association.

BEN. LOGAN, M.D., Shreveport, La.

A. LOPEZ, M.D., Mobile, Ala., formerly President of the Alabama State Medical Society.

B. I. RAPHAEL, M.D., New York.

J. C. REEVE, M.D., Dayton, Ohio.

L. C. RIVES, M.D., formerly Professor of Midwifery, Medical College of Ohio.

J. LAWRENCE SMITH, M.D., Professor of Chemistry, University of Louisville.

W. C. SNEED, M.D., Frankfort, Ky., President, Kentucky State Medical Society.

C. H. SPILMAN, M.D., Harrodsburg, Ky., late President of Kentucky State Medical Society.

GEO. SUTTON, M.D., Aurora, Ia.

W. L. SUTTON, M.D., Georgetown, Ky., formerly President Kentucky State Medical Society.

HORATIO R. STORER, M.D., One of the Physicians to the Boston Lying-in Hospital, Boston, Mass.

S. THOMPSON, M.D., Albion, Ill.

E. WILLIAMS, M.D., Cincinnati, Ohio.

LIST OF COLLABORATORS.

John L. Atlee, M.D., President Pennsylvania State Medical Society.

Walter F. Atlee, M.D., Philadelphia.

John Bell, M.D., Philadelphia, formerly Professor of Medicine, Medical College of Ohio.

T. S. Bell, M.D., Louisville, Ky.

S. M. Bemiss, M.D., Louisville, Ky.

L. P. Blackburn, M.D., Natchez, Miss.

G. C. Blackman, M.D., Professor of Surgery, Medical College of Ohio.

W. S. Bowen, M.D., New York.

J. L. Bobbs, M.D., formerly Professor of Anatomy, Indianapolis.

W. M. Boling, M.D., Montgomery, Ala., formerly Professor of Midwifery, Transylvania University, Lexington, Ky.

N. Bozeman, M.D., Montgomery, Ala.

J. T. Bradford, M.D., Augusta, Ky.

John H. Brinton, M.D., Lecturer on Operative Surgery, Philadelphia.

W. S. Chipley, M.D., Professor of Medicine, Transylvania University.

A. Clapp, M.D., New Albany, Ia.

D. B. Cliffe, M.D., Franklin, Tenn.

J. Da Costa, M.D., Lecturer on the Practice of Medicine, at the Philad. Med. Association.

M. Dupierris, M.D., Havana, Cuba.

W. F. Edgar, M.D., United States Army.

S. C. Farrar, M.D., Jackson, Miss.

C. S. Fenner, M.D., Memphis, Tenn.

Austin Flint, M.D., Professor of Clinical Medicine and Pathology, University of Buffalo.

Charles Fricke, M.D., Baltimore.

W. Y. Gadbury, M.D., Benton, Miss.

O. C. Gibbs, M.D., Chautauque County, New York.

Dr. J. P. Hall, Glasgow, Ky.

John Hardin, M.D., Professor of Obstetrics, Kentucky School of Medicine, Louisville.

Edward Hartshorne, M.D., One of the Surgeons to Wills Hospital for Diseases of the Eye, Philadelphia.

E. B. HASKINS, M.D., Clarksville, Tenn., late President of the Tennessee State Medical Society.

C. A. HENTZ, M.D., Marianna, Florida.

ADDINELL HEWSON, M.D., One of the Surgeons to Wills Hospital for Diseases of the Eye, Philadelphia.

SAMUEL L. HOLLINGSWORTH, M.D., late Editor of the Medical Examiner, Philadelphia.

WILLIAM A. HAMMOND, M.D., United States Army.

WILSON JEWELL, M.D., Philadelphia, President of the Quarantine and Sanitary Convention.

G. A. KUNKLER, M.D., Madison, Ia.

WM. V. KEATING, M.D., Lecturer on Obstetrics and the Diseases of Women, in the Philadelphia Medical Association.

BEN. LOGAN, M.D., Shreveport, La.

A. LOPEZ, M.D., Mobile, Ala., formerly President of the Alabama State Medical Society.

GEORGE R. MOREHOUSE, M.D., Philadelphia.

H. WEIR MITCHELL, M.D., Lecturer on Physiology at the Philad. Med. Association.

B. I. RAPHAEL, M.D., New York.

J. C. REEVE, M.D., Dayton, Ohio.

L. C. RIVES, M.D., formerly Professor of Midwifery, Medical College of Ohio.

J. LAWRENCE SMITH, M.D., Professor of Chemistry, University of Louisville.

W. C. SNEED, M.D., Frankfort, Ky., President, Kentucky State Medical Society.

C. H. SPILMAN, M.D., Harrodsburg, Ky., late President of Kentucky State Medical Society.

GEO. SUTTON, M.D., Aurora, Ia.

W. L. SUTTON, M.D., Georgetown, Ky., formerly President Kentucky State Medical Society.

HORATIO R. STORER, M.D., One of the Physicians to the Boston Lying-in Hospital, Boston, Mass.

S. THOMPSON, M.D., Albion, Ill.

E. WILLIAMS, M.D., Cincinnati, Ohio.

LIST OF COLLABORATORS.

John L. Atlee, M.D., President Pennsylvania State Medical Society.
Walter F. Atlee, M.D., Philadelphia.
John Bell, M.D., Philadelphia, formerly Professor of Medicine, Medical College of Ohio.
T. S. Bell, M.D., Louisville, Ky.
S. M. Bemiss, M.D., Louisville, Ky.
L. P. Blackburn, M.D., Natchez, Miss.
G. C. Blackman, M.D., Professor of Surgery, Medical College of Ohio.
W. S. Bowen, M.D., New York.
J. L. Bobbs, M.D., formerly Professor of Anatomy, Indianapolis.
W. M. Boling, M.D., Montgomery, Ala., formerly Professor of Midwifery, Transylvania University, Lexington, Ky.
N. Bozeman, M.D., Montgomery, Ala.
J. T. Bradford, M.D., Augusta, Ky.
John H. Brinton, M.D., Lecturer on Operative Surgery, Philadelphia.
W. S. Chipley, M.D., Professor of Medicine, Transylvania University.
A. Clapp, M.D., New Albany, Ia.
D. B. Cliffe, M.D., Franklin, Tenn.
J. Da Costa, M.D., Lecturer on the Practice of Medicine, at the Philad. Med. Association.
M. Dupierris, M.D., Havana, Cuba.
W. F. Edgar, M D., United States Army.
S. C. Farrar, M.D., Jackson, Miss.
C. S. Fenner, M.D., Memphis, Tenn.
Austin Flint, M.D., Professor of Clinical Medicine and Pathology, University of Buffalo.
Charles Fricke, M.D., Baltimore.
W. Y. Gadbury, M.D., Benton, Miss.
O. C. Gibbs, M.D., Chautauque County, New York.
Dr. J. P. Hall, Glasgow, Ky.
John Hardin, M.D., Professor of Obstetrics, Kentucky School of Medicine, Louisville.
Edward Hartshorne, M.D., One of the Surgeons to Wills Hospital for Diseases of the Eye, Philadelphia.

E. B. HASKINS, M.D., Clarksville, Tenn., late President of the Tennessee State Medical Society.

C. A. HENTZ, M.D., Marianna, Florida.

ADDINELL HEWSON, M.D., One of the Surgeons to Wills Hospital for Diseases of the Eye, Philadelphia.

SAMUEL L. HOLLINGSWORTH, M.D., late Editor of the Medical Examiner, Philadelphia.

WILLIAM A. HAMMOND, M.D., United States Army.

WILSON JEWELL, M.D., Philadelphia, President of the Quarantine and Sanitary Convention.

G. A. KUNKLER, M.D., Madison, Ia.

WM. V. KEATING, M.D., Lecturer on Obstetrics and the Diseases of Women, in the Philadelphia Medical Association.

BEN. LOGAN, M.D., Shreveport, La.

A. LOPEZ, M.D., Mobile, Ala., formerly President of the Alabama State Medical Society.

GEORGE R. MOREHOUSE, M.D., Philadelphia.

H. WEIR MITCHELL, M.D., Lecturer on Physiology at the Philad. Med. Association.

B. I. RAPHAEL, M.D., New York.

J. C. REEVE, M.D., Dayton, Ohio.

L. C. RIVES, M.D., formerly Professor of Midwifery, Medical College of Ohio.

J. LAWRENCE SMITH, M.D., Professor of Chemistry, University of Louisville.

W. C. SNEED, M.D., Frankfort, Ky., President Kentucky State Medical Society.

C. H. SPILMAN, M.D., Harrodsburg, Ky., late President of Kentucky State Medical Society.

GEO. SUTTON, M.D., Aurora, Ia.

W. L. SUTTON, M.D., Georgetown, Ky., formerly President Kentucky State Medical Society.

HORATIO R. STORER, M.D., One of the Physicians to the Boston Lying-in Hospital, Boston, Mass.

S. THOMPSON, M.D., Albion, Ill.

E. WILLIAMS, M.D., Cincinnati, Ohio.

LIST OF COLLABORATORS.

S. G. Armor, M.D., Professor of Pathology and Clinical Medicine, Missouri Med. College.

John L. Atlee, M.D., President Pennsylvania State Medical Society.

Walter F. Atlee, M.D., Philadelphia.

John Bell, M.D., Philadelphia, formerly Professor of Medicine, Medical College of Ohio.

T. S. Bell, M.D., Louisville, Ky.

S. M. Bemiss, M.D., Louisville, Ky.

L. P. Blackburn, M.D., Natchez, Miss.

G. C. Blackman, M.D., Professor of Surgery, Medical College of Ohio.

W. S. Bowen, M.D., New York.

J. L. Bobbs, M.D., formerly Professor of Anatomy, Indianapolis.

W. M. Boling, M.D., Montgomery, Ala., formerly Professor of Midwifery, Transylvania University, Lexington, Ky.

N. Bozeman, M.D., Montgomery, Ala.

J. T. Bradford, M.D., Augusta, Ky.

John H. Brinton, M.D., Lecturer on Operative Surgery, Philadelphia.

W. S. Chipley, M.D., Professor of Medicine, Transylvania University.

A. Clapp, M.D., New Albany, Ia.

D. B. Cliffe, M.D., Franklin, Tenn.

J. Da Costa, M.D., Lecturer on the Practice of Medicine, at the Philad. Med. Association.

M. Dupierris, M.D., Havana, Cuba.

W. F. Edgar, M.D., United States Army.

S. C. Farrar, M.D., Jackson, Miss.

C. S. Fenner, M.D., Memphis, Tenn.

Austin Flint, M.D., Professor of Clinical Medicine and Pathology, University of Buffalo.

Charles Fricke, M.D., Baltimore.

W. Y. Gadbury, M.D., Benton, Miss.

O. C. Gibbs, M.D., Chautauque County, New York.

Dr. J. P. Hall, Glasgow, Ky.

John Hardin, M.D., Professor of Obstetrics, Kentucky School of Medicine, Louisville.

EDWARD HARTSHORNE, M.D., One of the Surgeons to Wills Hospital for Diseases of the Eye, Philadelphia.

E. B. HASKINS, M.D., Clarksville, Tenn., late President of the Tennessee State Medical Society.

C. A. HENTZ, M.D., Marianna, Florida.

ADDINELL HEWSON, M.D., One of the Surgeons to Wills Hospital for Diseases of the Eye, Philadelphia.

SAMUEL L. HOLLINGSWORTH, M.D., late Editor of the Medical Examiner, Philadelphia.

WILLIAM A. HAMMOND, M.D., United States Army.

WILSON JEWELL, M.D., Philadelphia, President of the Quarantine and Sanitary Convention.

G. A. KUNKLER, M.D., Madison, Ia.

WM. V. KEATING, M.D., Lecturer on Obstetrics and the Diseases of Women, in the Philadelphia Medical Association.

BEN. LOGAN, M.D., Shreveport, La.

A. LOPEZ, M.D., Mobile, Ala., formerly President of the Alabama State Medical Society.

GEORGE R. MOREHOUSE, M.D., Philadelphia.

H. WEIR MITCHELL, M.D., Lecturer on Physiology at the Philad. Med. Association.

B. I. RAPHAEL, M.D., New York.

J. C. REEVE, M.D., Dayton, Ohio.

L. C. RIVES, M.D., formerly Professor of Midwifery, Medical College of Ohio.

J. LAWRENCE SMITH, M.D., Professor of Chemistry, University of Louisville.

W. C. SNEED, M.D., Frankfort, Ky., President Kentucky State Medical Society.

C. H. SPILMAN, M.D., Harrodsburg, Ky., late President of Kentucky State Medical Society.

GEO. SUTTON, M.D., Aurora, Ia.

W. L. SUTTON, M.D., Georgetown, Ky., formerly President Kentucky State Medical Society.

HORATIO R. STORER, M.D., formerly one of the Physicians to the Boston Lying-in Hospital, Boston, Mass.

S. THOMPSON, M.D., Albion, Ill.

E. WILLIAMS, M.D., Cincinnati, Ohio.

NORTH AM. MED-CHIR, V. 1

41 C
921